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# ANALYSES AND PROJECTION OF ECONOMIC DEVELOPMENT

## VII. THE ECONOMIC DEVELOPMENT OF PANAMA

Study carried out by a national Working Group, appointed by the Government of Panama, and by the secretariat of the Economic Commission for Latin America

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## PRELIMINARY NOTE

In mid-1957 the Government of Panama expressed interest in the possibility of the secretariat of the Economic Commission for Latin America undertaking a comprehensive study on the general problems of Panama's economic development. With the agreement of the Panamanian authorities, it was decided that the study should be carried out by a permanent national working group in close collaboration with the staff of the secretariat. After the completion of the first stage - the compilation, organization and suitable presentation of the statistical information -, which took more than a year of continuous work in Panama itself, the economists of the Working Group transferred to ECLA's Mexico Office to proceed to the work of analysis and the drafting of the study.

The document here presented is thus the outcome of a new form of technical co-operation between the countries members of the Commission and the ECLA secretariat, a form which, in addition to widening the field of investigation open to the secretariat, brings national experts into close contact with international officials, allowing the former to familiarize themselves fully with the work systems and research methods of the secretariat and the latter to acquire a deeper and more complete understanding of national problems.

From the point of view of form, this study broadly follows the methodology developed by the secretariat for studying the growth problems of the countries in the region; and it complements the experience gained in the application of this methodology to the problems of various countries and to the different aspects of economic development.[1/] The study is of particular interest in this connexion because it shows that the methodology

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1/ Analyses and Projections of Economic Development. I. An Introduction to the Technique of Programming (E/CN.12/363); Analyses and Projections of Economic Development. II. The Economic Development of Brazil (E/CN.12/364/Rev.1); Analyses and Projections of Economic Development. III. The Economic Development of Colombia (E/CN.12/365/Rev.1); Análisis y proyecciones del desarrollo económico. IV. El desarrollo económico de Bolivia (E/CN.12/430 and Add.1/Rev.1) and External disequilibrium in the Economic Development of Latin America: the Case of Mexico (E/CN.12/428 and Add.1) (mimeographed document).

/is also

is also applicable to an essentially commercial economy which is integrated almost completely into the world market and in which an autonomous monetary system restricts the scope of economic policy.

In point of fact, long-term analysis of the country's structural problems shows how Panama's traditionally commercial economy has been changing during the last fifteen years under the impact of external factors similar to those which affected Latin America during the great world depression of 1929-32 and the ensuing period. These phenomena, and others of internal origin such as demographic pressure and the level of employment of resources, have turned Panama's economy into new channels, towards the development of the domestic productive system. As the projections included in the study indicate, this trend will have to be accelerated in the future if it is desired to raise the general standard of living of the Panamanian people, to solve the problem of structural unemployment and, so far as possible, to reduce the vulnerability of the system to world economic fluctuations.

A study such as this could not have been completed in a reasonable period of time if many Panamanians and Panamanian institutions, both public and private, had not helped with their information, experience, advice and criticism. It is, of course, impossible to list each and every one of them, and it would be unfair to mention only a selected few; but the Working Group and the secretariat would nevertheless like to acknowledge the generous co-operation they received and the firm support they were given whenever these were sought.

The Panamanian Working Group consisted of Mr. Rubén Darío Herrera (who acted as co-ordinator of the group) and Mr. Herman Rodríguez - both of the Statistical and Census Department - with Mr. Gaspar Estribí, lent by the Institute of Economic Development.

The assistance of the Statistical and Census Department, the Director of which undertook the general work of supervision and which set up an Analysis Section, to work exclusively and continuously for the Group, proved of inestimable value. In addition, the Department gave great practical help throughout the carrying out of this study.

/INTRODUCTION

# INTRODUCTION

In examining Panama's economic development during the period 1945-56, the first points to be borne in mind are the exceptional situation which prevailed in the country during the years of the Second World War and the fact that the pattern of Panama's economic system is due to peculiar historio-geographical circumstances.

The strategic geographical position of the Isthmus of Panama has made it for centuries a crossroads of international passenger and cargo routes. To this prime cause was due the emergence and subsequent development of an urban, commercial type of economy, which has given rise to an institutional system and an economic infrastructure peculiarly suited to the functions of such an economy. The successive intensifications of economic activity resulting from periods of international trade prosperity and from the large-scale construction works carried out on the trans-Isthmian route served to accentuate this characteristic of Panama's economy and have caused a great influx of population, both Panamanian and foreign, which is concentrated in the terminal cities of Panama and Colon.

The rest of the country has remained almost entirely outside the urban economy, except for very small sectors and in very special circumstances. The stimuli to productive activity which might have been offered by the urban market, especially during its periods of prosperity, have been frustrated by the lack of basic social capital in general and of communications in particular, by the autarky of the greater part of the agricultural sector and by the fact that the urban sector is completely integrated into the world market.

During the last years of the 1930's and the subsequent war years, all forms of activity in the Canal Zone were enormously intensified, and the demand for Panamanian goods and services thus greatly increased. At the same time, the shortage of international sea transport curtailed the volume of imports. This form of protection of the internal market, which had never operated during earlier periods of prosperity, led to a considerable expansion and a far-reaching transformation in productive activity. The stimuli of demand and prices and the protection afforded against foreign competition were further fortified by a determined policy of

development, especially of food production. Highways were extended and improved, agricultural marketing systems were established, crop and stock-farming techniques were improved, a production credit system was developed and, in general, efforts were made to increase Panama's productive capacity.

The under-utilization of resources had previously been a historical feature of Panama's economy, and the combined effect of all the above factors resulted in a great increase in production and led to the incorporation of important sectors of the autarkic rural economy into the monetary market. All this meant a change in the nature and scope of Panama's economy, as indicated in the introduction to chapter I.

In the first post-war years, activities in the Canal Zone, which had been abnormally intense during the war, reverted to normal levels. The demand for Panamanian goods and services as a result suffered a contraction of considerable magnitude. This fact, which had repercussions on the level of internal economic activity and on the process of structural transformation which had begun in earlier years, forms the subject of chapter I.

As is pointed out at the beginning of that chapter, the basic stimulus to post-war economic development was the change which occurred in the composition of aggregate demand, for while external demand fell sharply, to resume its normal level, internal demand contracted much less sharply. The accumulation of liquid reserves and funds during the war and the reduction in relative internal costs were the main determinants of the relative expansion of the domestic market.

The cushioning effect of internal demand - particularly during the depression phase of the years 1948-52 - was due primarily to the high level maintained by private consumption during the first post-war years and the smallness of the contraction it underwent during the crisis years. But from 1950 on the main stimulus came from a great expansion of public expenditure (for both consumption and investment), an expansion which took place despite the limitations imposed by Panama's monetary system. Thus the structural change in aggregate demand not only prevented an even greater contraction of the economy during the period in question, but - what is much more important in the long run - by broadening the internal market stimulated the growth of the domestic productive system.

/As regards

As regards the first of the two effects referred to, the fall in the gross product between 1947, a peak year, and 1949, when the crisis was at its most intense, was relatively slight compared with the marked decline in external demand. In the years that followed, up to 1953, economic activity recovered rapidly, and in the last three years of the period under review it grew at a rate higher than that of the population increase.

The intensity of Panama's economic growth during the post-war period cannot be gauged from a comparison of the extreme values of the gross product series; such a comparison is invalidated by the abnormal circumstances of the first years and by the subsequent contraction. A clearer idea of the intensity of the process can be gained by observing the structural changes which took place in productive activity.

The share of the basic sectors in the gross product rose considerably That of agriculture, for instance, which had accounted for less than a fifth of the gross product in 1945, rose to almost 25 per cent in 1956. The manufacturing industry sector, which in the first year had barely exceeded 8 per cent of the gross product, rose to almost 11 per cent by the end of the period. The relative expansion in the basic services sectors of transport and energy, which rose from 4.9 to 6.9 per cent, was also noteworthy. In the aggregate these basic sectors, plus construction, increased their share in the total gross product from 37 per cent in 1945 to 47 per cent in 1956.

The share of the services sectors in the total gross product fell from almost two-thirds in 1945 to a little more than half in 1956. The decisive factor in this relative contraction was the sharp fall - by 64 per cent - in the gross product deriving from the Canal Zone. The share of the latter sector in the gross product declined from about 21 per cent in 1945 to a bare 6 per cent in 1956.

Imports followed a line of development very similar to that of the gross product as a whole, although they did not display such marked changes in structure. The most important change took place in connexion with consumer goods, especially non-durables. The increase in the domestic production of foodstuffs, both primary and processed, eliminated imports of staple items such as rice and maize, dairy products and other manufactured goods.

A significant change was also observed in imports of construction materials, thanks primarily to the fact that in 1948 cement manufacture was begun in Panama.

In chapter II an attempt is made to sum up - with a view to interpreting them correctly - the main characteristics of Panama's economic development. The determining factors in the development process having been identified, two hypotheses on the future magnitude of the latter are established as a basis for two aggregate projections of Panama's economy for the year 1966. The first reflects the general trend in the economy which would result from a normal development of the capacity to import, the rate of investment and the product capital ratio, in conditions similar to those which have prevailed in Panama to date. This projection, which attempts to suggest the most likely lines of development of the economy on the basic assumption that its fundamental characteristics will persist, predicts for 1966 an average standard of living showing a slightly downward trend, the problem of unemployment at the same time becoming more acute.

As the main conditions for the acceleration of economic growth are an increase in exports, a rise in the rate of capital formation and a more intensive use of productive capacity, some features of Panama's economy which prevent the achievement of these goals are examined. Thus, the nature and significance of Panama's monetary system are analysed, its traditional pattern being contrasted with the needs arising from a process of rapid economic growth. Some attention is also given to the problem of the lack of stimuli to private investment, a problem due fundamentally to the deficiencies in the country's economic infrastructure but affected again by certain characteristics of the monetary system.

The lack of basic social capital and the fact that the national economy is not welded into a single market of goods and factors of production are considered from the point of view of the inelasticity they cause in the productive system, this inelasticity contributing to the inadequate utilization of resources and thus constituting one of the main factors in the economy's low real productivity.

A study is also made of the size of the Panamanian market and the factors limiting it, special attention being given to the large autarkic segment existing within the agricultural sector, the serious problems of

/urban unemployment

urban unemployment and under-employment and the unequal distribution of income. In addition, consideration is given to certain features peculiar to the economy which explain the high level of monetary costs in Panama, in particular, the effect on urban wages of the labour market in the Canal Zone and the protection granted to agriculture. The latter question is then dealt with in a more general way to bring out the significance of protectionist measures in an economy characterized by a wide margin of idle or under-employed resources.

On the basis of this analysis of the main obstacles to growth, a second aggregate projection is presented with a view to illustrating the pre-requisites for a process of economic development. This projection proceeds from the assumption of a target rate of growth in per capita private consumption of 2.0 per cent per year. It is also assumed that once the factors hindering development were removed or reduced in force, the capacity to import could grow at a rate of 3.7 per cent per year and the product-capital ratio at an annual rate of 4.6 per cent. From these assumptions it is deduced that the rate of investment would have to be 21 per cent of gross product and that the latter would have to grow at a rate of 6.8 annually. The intensity of the effort which would have to be made and the changes to which the process would give rise are evidenced in the increase which would be called for in public investment, which would have to increase to about half of gross investment and a similar share of total State expenditure.

One of the basic elements in the aggregate projections is the evolution of the capacity to import, and the prospects of this are therefore examined in considerable detail. The complex structure of Panama's export trade, including as it does exports of goods, transactions connected with the transit and tourist traffic and sales to the Canal Zone, make it necessary to study the determining factors of all the main items included in each of the three categories of external demand.

From this analysis are derived two alternative projections. The first, hypothesis "A", corresponds to the aggregate projection of probable trends, and is thus based on the assumption that the present basic conditions of Panama's economy will persist - in which case the capacity to import will barely increase. Sales to the Canal Zone would tend to decline slightly

in absolute terms and exports of goods to increase to a very modest extent, the only dinamic sector being transactions connected with the transit and tourist traffic. The increase in the latter sector - which is certainly the least important of the three - would be due mainly to an increase in the numbers and expenditures of tourists.

Hypothesis "B", which by contrast assumes more favourable internal conditions and the deliberate stimulation of exports, corresponds to the aggregate projection of an economic development process. Despite this, external demand would increase in this case by only 45 per cent, an increase not substantially greater than that of the population. The least dynamic sector would be sales to the Canal Zone, which would increase little if at all. Exports of goods, on the other hand, would increase by 71 per cent, mainly as a result of the development of new export lines. The most dynamic sector would still be the transit and tourist traffic, which in this case would more than double as the result of an intensive expansion of tourist activity.

Lastly, it is interesting to note that the decisive factor in the capacity to import would still be the quantum of exports, since in Panama's economy the terms of trade tend to be remarkably stable.

The study concludes with a detailed presentation of the aggregate projection of Panama's economic development. Starting from the general assumptions underlying this projection, and more particularly the projection of private consumption, chapter IV analyses - by principal products and groups of products - the future trend in the demand for final goods. From the data previously given, and from the analysis of secular trends and of the possibilities for the substitution of imports by domestically-produced goods, an itemized projection is built up of domestic production in 1966. This projection permits an estimate to be made of the raw materials, fuel, power and other inputs needed for productive activities in 1966. A study is then made of the possibilities for the substitution of imports of intermediate goods, and a detailed estimate of production needs in respect of such goods is arrived at.

On the basis of the foregoing projections and of the projections of gross investment - both public and private - an estimate is then made of capital goods requirements. The possibilities for the substitution of

imports of these goods thus determine domestic production and the necessary volume of imports.

The itemized projections of domestic production and of imports are regrouped so as to permit a table to be drawn up to show the necessary development of the gross product, by economic sectors, and of imports, by types of goods. This regrouping casts further light on the magnitude of the effort implicit in the projection of economic development.

The growth of consumption assumed in the projection, given the very small extent to which imports would be able to expand, implies that the sectors producing goods - agriculture and manufacturing - would have to expand by 73 and 109 per cent respectively. To make this increase possible, the basic services sectors - transport and energy - would have to expand by 75 and 132 per cent respectively. Since these increases would necessitate a substantial enlargement of the basic social capital, construction activities would have to multiply more than two and a half times. By contrast, the services sectors would continue to decline in relative importance, and the share of the Canal Zone sector in the gross product - which would fall by almost 13 per cent in absolute terms - would decline to less than 3 per cent.

This marked transformation in Panama's productive structure would be accompanied by an even greater change in the composition of imports. In view of the type of goods which could be produced in Panama, substitution would be greater in consumer goods, imports of which would decline even in absolute terms. The share of consumer goods in total imports would tend to decline from about two thirds in 1956 to about a third in 1966. On the other hand, imports of raw materials would increase their share from 23 to 41 per cent and imports of capital goods from 13 to 23 per cent.

In the last fifteen years Panama's economy has been subject to intense external and internal pressures which have brought about a change in its general pattern. The domestic sectors of production have begun to develop and to become integrated into a genuine national economy. The projections show that this process still lacks the vigour which would be necessary to give the economy a rate of growth sufficient to raise the standard of living of the people and to mitigate the serious problem of unemployment; they also indicate that the solution of these problems calls for an

intensification of the process recently begun. Among other things, Panama's economic infrastructure and institutional superstructure - which have just begun to break free from their traditional patterns - will have to be fully adapted to the demands of an intensive process of economic development.

# Chapter I

# THE DEVELOPMENT OF PANAMA'S ECONOMY DURING THE PERIOD 1945 - 56

## I. INTRODUCTION

### 1. Background of post-war economic development

The period covered by this study (1945 - 56) was one of the longest eras of prosperity the world economy has known in many decades. In 1949 and 1954, it is true there were slight recessions in the economy of the United States; but they did not spread to the rest of the world. Yet it was during this very period that Panama underwent a profound economic crisis, comparable to that experienced by some Latin American countries during the great world crisis of 1929-32. As then, the main cause of the economic contraction experienced by Panama in the years 1948-52 lay in the country's external demand; and just as prosperous years preceded the great world crisis, so Panama went through a period of exceptional economic expansion during the first half of the 1940's.

Thus, a study of economic growth in the post-war period takes its departure from a somewhat abnormal situation and one which, moreover, to a large extent determines the general direction of subsequent economic development. For this reason, it will be useful to describe in broad outline Panama's situation during the years of the Second World War.

For a juster appreciation of the situation it should be recalled that the strategic geographical position of the Isthmus of Panama - for centuries a focal point of international transit and trade - has had a decisive influence on the structure and slant of Panama's economy. As a result of geographical factors, the country has naturally concentrated on economic activities connected with international transit and trade, and has developed an economic infrastructure and an institutional superstructure basically directed along corresponding lines. Since Panama has lacked the most elementary basic social capital - roads, power, etc. - and since the potential Panamanian producer has been exposed to a completely free international competition, the development of the country's productive resources has been extremely sketchy. Consequently, the emergence of an

/urban market

urban market of some size and the successive economic booms resulting from the intensification of economic activity on the Isthmus[1/] have not created stimuli strong enough to set off a process of general economic development in Panama.

On the eve of the Second World War, Panama was still basically divided into a relatively advanced urban area and a vast hinterland having practically no links with the commercial and urban sectors of the economy. The only exceptions were the regions around the terminal cities and, up to a point, the provinces of Chiriquí and Bocas del Toro at the country's western extremity. In the first of these a livestock industry of some importance had developed, and both possessed a modern agricultural sector consisting of the large banana plantations. But this latter sector was completely cut off from the rest of the economy and had been directed entirely towards the foreign market.

Against this background there developed, towards the end of the 30's and during the subsequent four years, a tremendous intensification of the economic activities connected with the operation and defence of the Panama Canal. The size of the population resident in the Canal Zone rose from 57 000 in 1940 to more than 126 000 in 1943, the year in which the expansion reached the climax. The number of persons employed by the Panama Canal Company rose from 14 800 in 1939 to about 40 000 by the middle of 1942 and was still almost 30 000 in 1946, when activities were rapidly dwindling. On the other hand, although normal goods traffic through the Canal declined during these years, the transit of military transports and warships raised the annual total to almost 9 000 ships in 1945; in the pre-war years, the traffic had never exceeded 7 000, nor did it exceed that figure again until 1952. Defence-works, airports, highways and troop quarters were built; a start was even made on the construction of a third set of locks for the Canal; the heavy traffic through the Canal brought with it an extraordinary increase in the number of persons in transit, both armed forces personnel and members of the crews of naval and transport vessels; a sudden and substantial rise took place in the size of the population resident in the Canal Zone; and all these factors resulted in an immeasurable increase in the demand for goods and services.

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1/ The building of the trans-Isthmian railway in the middle of the last century the first attempt to construct the canal towards the end of that century, the final construction of the Canal in the early years of this century and the activity developed in the Canal Zone during the Second World War

Up to that point and save for differences in the degree and extent of the boom, the situation was not fundamentally different from those of similar periods experienced by Panama in the past. But the fact that a world war was in progress introduced a new element whose influence was to be decisive for the future direction of the country's economy. As has been said, during the boom periods Panama had experienced at various times in the course of its history the external stimuli to economic development had been frustrated by the inelasticity of domestic production and its precarious competitive position in relation to imports. These booms, therefore, had been mere fleeting periods of prosperity, and when they ceased the activities undertaken temporarily to satisfy additional demand also came to an end, and the country reverted to its normal state of under-employment and minimal development. But the sequel to the last boom experienced by Panama was different, since external competition was to a large extent eliminated and the Government deliberately encouraged the development of domestic production and embarked on investment designed to expand the basic social capital.

While the demand for goods and services was thus expanding imports, the usual means of meeting this additional demand, were severely curtailed since merchant fleets had to be used mainly for the transport of war supplies and military personnel and the most imperative needs of the belligerent countries. At the same time the need to provide food supplies for the additional population of the Zone and the Panamanian people themselves - before the war food had been imported in large quantities - made it essential to develop domestic production. Accordingly, the Panamanian Government, with the help of the Institute of Inter-American Affairs and the United States armed forces, made great efforts during the war years to extend the country's road system, the inadequacy of which was the main obstacle to the expansion of agricultural output, and deliberately encouraged the growth of agriculture.

In 1940 Panama obtained a loan for the paving of the Chorrera - Rio Hato highway, and in subsequent years - between 1942 and 1946 - the total length of the concrete and macadam road system was increased from only 307 kilometres to 522 kilometres. Measures of agricultural policy included price fixing and control, the establishment of agricultural products purchasing

/centres at

centres at Chitré, Davíd, Aguadulce, Concepción and Paso Canoas, the distribution of tools, seeds, insecticides and fertilizers and the building of the Natá-Arnbito section of the Inter-American Highway.[2/] As a result of all this, Panama's economy expanded and developed to an extraordinary extent in the short space of five years.

The statistics available are not sufficient to permit a complete study of the economic process which took place during these years; but they indicate its general lines. Domestic production, both agricultural and industrial, substantially increased. The sown area for the three most important food-crops increased by more than 50 per cent between 1941 and 1946, and cattle slaughterings rose by 70 per cent between 1939 and the average for the first three post-war years. The number of pigs slaughtered increased over the same period from 37 400 to 44 100. Industrial activity showed similar increases, the output of sugar and condensed milk rising by 75 to 80 per cent between the pre-war period and the first three post-war years, and the production of beer - despite the contraction in demand from the Canal Zone in the latter period - rising by 22 per cent. The consumption of electricity and gas in the cities of Panama and Colón increased by 62 and 75 per cent respectively during the five years 1940-45. All these marked increases in domestic production set off an active process of imports substitution, especially in the case of fresh beef and pork and processed meat products. As regards rice, the volume of imports remained fairly constant, although later, in 1949, imports almost completely ceased (see table I-1).

The foregoing figures reflect clearly enough the development of Panama's economy from the point of view of certain products or sectors of production. It will be useful at this point to observe the way in which certain sectors of Panama's economy as a whole expanded. Although values are given at current prices, and despite the rise in the general level of prices during the years in question, the increases are of such a size as to show clearly the degree to which Panama's economic base

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2/ Inter-American Agricultural Co-operation Service in Panama, Once años de colaboración en agricultura y recursos naturales, report of the Director of SICAP to the Minister of Agriculture, Panama, June 1953.

/Table I-1

Table I-1

PANAMA: PRODUCTION AND IMPORTS OF CERTAIN PRODUCTS

| Product | Units | Pre-war (1937-39) | Post-war (1946-48) | Post-war index (pre-war =100) |
|---|---|---|---|---|
| **Industrial products** | | | | |
| Condensed milk | Tons | 266 a/ | 466 | 175.1 |
| Sugar | " | 4 396 | 8 017 | 182.4 |
| Beer | Thousands of litres | 17 061 b/ | 20 766 | 121.7 |
| Electricity | Millions of kWh | 29 c/ | 47 | 162.1 |
| Gas | Millions of cubic feet | 206 c/ | 357 | 173.3 |
| **Agricultural products** | | | | |
| Cattle slaughterings | Thousands of head | 44 a/ | 75 | 170.5 |
| Pig | " " " | 37 a/ | 44 | 118.9 |
| Area sown, rice | Thousands of hectares | 30 b/ | 46 d/ | 153.3 |
| " " maize | " " " | 24 b/ | 36 d/ | 150.0 |
| " " beans | " " " | 5 b/ | 9 d/ | 180.0 |
| **Imports** | | | | |
| Fresh beef | Tons | 733 | 81 | 11.1 |
| Fresch pork | " | 271 | 95 | 35.1 |
| Poultry meat | " | 172 | 86 | 50.0 |
| Sausages | " | 240 | 69 | 28.8 |
| Dried cod | " | 494 | 216 | 43.7 |
| Rice | " | 3 406 a/ | 3 323 d/ | 97.6 |

Source: Statistical and Census Department, Panama.

a/ 1939.
b/ 1941.
c/ 1940.
d/ 1946.

/expanded. Between

expanded. Between 1939 and 1946 total Government expenditure practically quadrupled and Government revenue increased two and a half times.3/ The expansion of the country's monetary and banking system is clearly apparent from the figures, which show that between 1939 and 1946 demand deposits multiplied more than eight times, time deposits 3.6 times and bank loans and investments 4.0 times. Imports expanded more than two and a half times during the same period, and construction in the cities of Panama and Colón increased by the same amount between 1942 and 1946. Despite the extent of the change undergone by Panama's economy during the Second World War, the level of retail prices in Panama City rose by barely 75.0 per cent between 1939-40 and 1946 (see table I-2).

As will be seen later, and for reasons which will be examined in detail, the extraordinary boom conditions of the war period continued for some years after their real causes had ceased to exist. Whereas in the three years 1945-47 construction and the size of the resident population of the Canal Zone -- as well as the number of persons in transit through the Canal -- declined rapidly, to revert finally to normal figures, Panama's economic activity remained at very prosperous levels. The gross product reached its maximum in 1946 and 1947, and not until the following five-year period did it come to reflect the depressive effects of the contraction in external demand.

The broadening of Panama's economic base and the redirection of its productive activities during the Second World War and the years immediately following were of tremendous significance for subsequent economic development. The country emerged from this last boom with an economy transformed and expanded by the need to increase domestic production. Agricultural output was brought into the monetary market and linked with urban buying centres; the urban population in the two main cities and in the rest of the country expanded, as a result both of the activity deriving from the Canal Zone and from transit traffic and tourism and

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3/ The imbalance between the two increases is due to the low level of expenditure in 1939 and the high level of revenue in that and the following years, so that a large accumulation of public funds took place. See chapter I, section II.4.b.

of the country's incipient industrialization; and, as a consequence economic groups were created with a vital interest in the maintenance of the level of domestic production. All these factors brought about a permanent re-orientation of Panama's economic policy. The fostering of domestic production and the expansion of basic social capital were no longer matters of emergency policy but became aspects of an economic line which, at least from 1950 onwards, has been resolutely directed towards the country's internal economic development. Detailed analysis of the period 1945-56 will enable us to observe, in its various aspects, the development of the process whose immediate causes have just been outlined.

## 2. Significance of the period analysed

As has been said, the period of analysis covered by statistical series begins in the years in which Panama's economic activity was at exceptional levels, owing to an abnormal external demand. Accordingly, the comparisons which will be made in the course of this study between the first and the final years of the period should not be seen as an attempt to measure a trend, even though they cover a period of twelve years. They should be regarded rather as a background against which the structural modifications and the changes in the level of activity which Panama's economy has experienced may be interpreted.

In broad terms it may be said - to set the detailed survey which follows in its proper perspective - that the first years of the period reflect the exceptionally favourable conditions which prevailed during the preceding years and represent a phase of full employment, indeed over-employment, in Panama's economy. The years 1949 and 1951, roughly speaking, form the trough of the depression caused by the fall in external demand, and the following years, possibly up to 1953, cover the period of recovery of productive activity. There was no return to the employment level of the initial period, for the external demand deriving from the Canal Zone and from transit and tourist traffic had returned to normal; there was a return only to full employment of the limiting factor of production - the country's productive capacity - for considerable unemployment persisted. The

/post-war

Table I-2

PANAMA: SOME INDICATORS OF THE ECONOMIC TRANSFORMATION IN THE PERIOD 1939-1946

(Millions of balboas)

| | 1939 | 1946 | Index 1946 (1939=100) |
|---|---|---|---|
| Government expenditure | 9.4 | 36.4 | 387.2 |
| Government revenue | 12.7 | 31.3 | 246.5 |
| Imports | 20.5 | 56.3 | 274.6 |
| Bank deposits | | | |
| demand (private) | 4.4 | 36.5 | 829.5 |
| time (total) | 6.7 | 24.1 | 359.7 |
| Bank loans and investments | 10.6 | 42.8 | 403.7 |
| Value of building permits granted in the cities of Panama and Colón | 3.3 a/ | 8.8 | 266.7 |
| Index of food prices in Panama City | 100.0 b/ | 175.0 | 175.0 |
| Population (thousands) | 622.6 c/ | 720.8 d/ | 115.8 |

Source: International Monetary Fund, Economic Survey of Panama, 1952; and Statistical and Census Department, Panama.

a/ 1941.

b/ Base 100 corresponds to the period October 1939-June 1940.

c/ 1940.

d/ Estimate as at 1 July.

/of the

post-war period then, is characterized by two qualitatively different stages of full employment; one in which an abnormal level of external demand, especially for services, allowed the full employment of all productive resources, and another in which the determining factor in the employment of labour was installed productive capacity so that there was in fact considerable unemployment.

Thus, if by a normal situation we mean one in which a high level of economic activity and a minimum of unemployment prevails, only the first years of the post-war period can be so described. The next years must be regarded as years of economic crisis or depression, and the last years, from 1953 to 1956, as a period of under-employment equilibrium. In view of its importance, the fact that Panama's economy was able to reach normal levels of economic activity only during a period in which external demand was exceptionally favourable, and that when conditions reverted to normal its level of activity after passing through a severe depression, declined to a state of permanent under-employment of productive resources, will be examined in detail at a later stage of this study.

## II. AGGREGATE DEMAND

### 1. General trends

In the period between 1945 and 1956 Panama's aggregate demand rose from 361.1 to 447.2 million balboas,[4/] an increase of 23.8 per cent (see table I-3). The corresponding annual rate was 2 per cent, which is lower than the rate of increase of the Panama's population during the same period. As can be seen from figure I-1, aggregate demand starts from a relatively high level and reaches its maximum in 1946. After that there begins a phase of descent which stops only in 1948-49, at a level 13 per cent below the 1946 figure. In 1950 a slight recovery begins, but an accelerated and persistent growth in aggregate demand does not commence until 1952. The size and importance of the contraction suffered by aggregate demand may be judged from the fact that the peak level of

4/ Unless otherwise indicated, all figures given in this study are expressed in terms of 1950 prices. The concepts employed are defined in appendix A.

Table I-3

PANAMA: AGGREGATE DEMAND AND ITS COMPONENTS

| Year | Aggregate demand | External demand (capacity to import) | Internal demand |
|---|---|---|---|
| | (Millions of balboas at 1950 prices) | | |
| 1945 | 361.1 | 131.7 | 229.4 |
| 1946 | 388.2 | 123.7 | 264.5 |
| 1947 | 360.9 | 83.8 | 277.1 |
| 1948 | 337.1 | 83.3 | 253.8 |
| 1949 | 338.1 | 86.0 | 252.1 |
| 1950 | 350.8 | 78.6 | 272.8 |
| 1951 | 350.8 | 70.0 | 280.8 |
| 1952 | 369.8 | 71.7 | 298.1 |
| 1953 | 384.1 | 78.5 | 305.6 |
| 1954 | 407.1 | 85.3 | 321.8 |
| 1955 | 432.5 | 92.5 | 340.0 |
| 1956 | 447.2 | 92.4 | 354.8 |
| | (Percentages) | | |
| 1945 | 100.0 | 36.5 | 63.5 |
| 1946 | 100.0 | 31.9 | 68.1 |
| 1947 | 100.0 | 23.2 | 76.8 |
| 1948 | 100.0 | 24.7 | 75.3 |
| 1949 | 100.0 | 25.4 | 74.6 |
| 1950 | 100.0 | 22.2 | 77.8 |
| 1951 | 100.0 | 20.0 | 80.0 |
| 1952 | 100.0 | 19.4 | 80.6 |
| 1953 | 100.0 | 20.4 | 79.6 |
| 1954 | 100.0 | 21.0 | 79.0 |
| 1955 | 100.0 | 21.4 | 78.6 |
| 1956 | 100.0 | 20.7 | 79.3 |

Source: Table A-1.

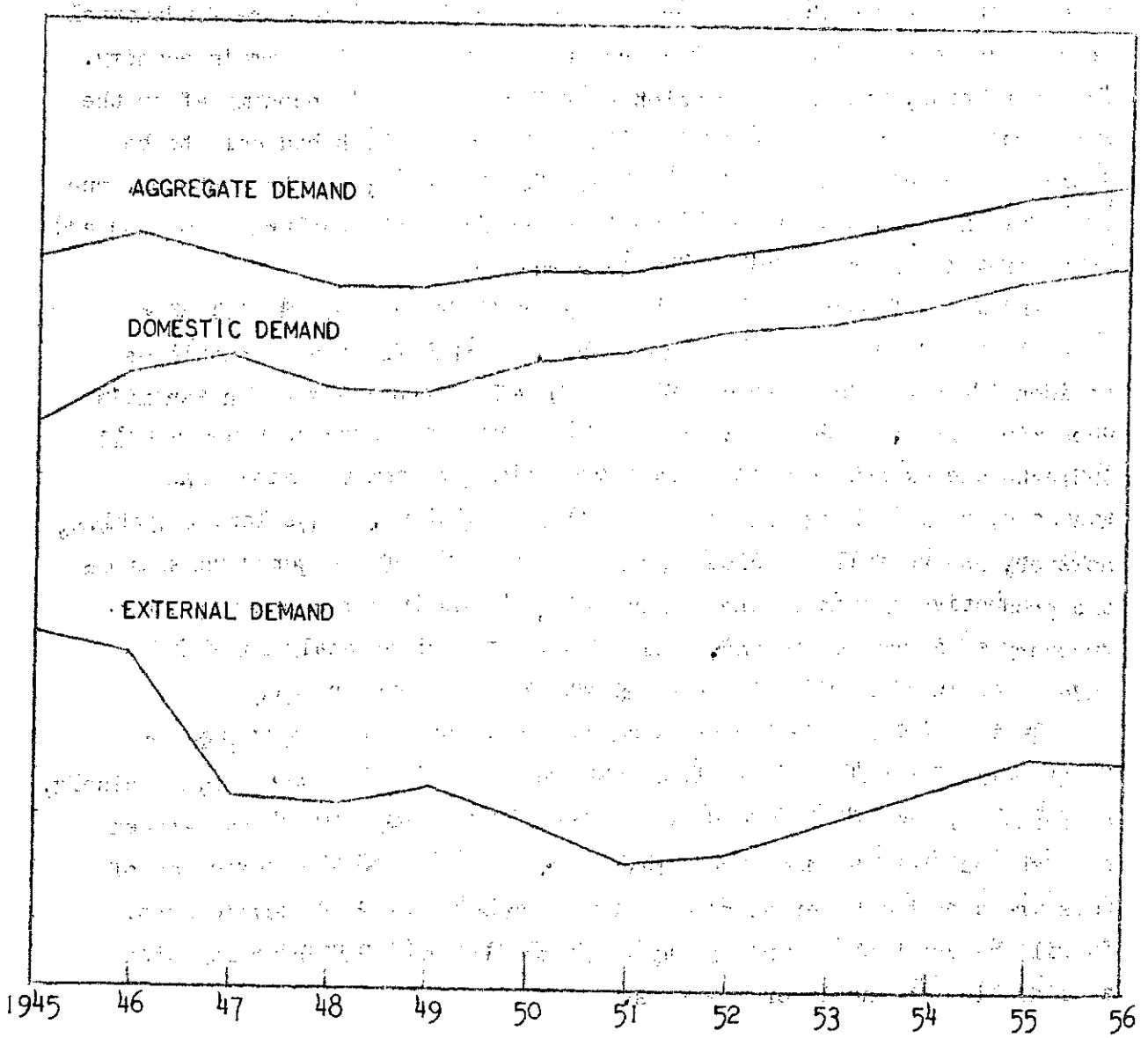
/Figure I-1

FIGURE I - 1

PANAMA : AGGREGATE DEMAND, DOMESTIC DEMAND AND EXTERNAL DEMAND

(MILLIONS OF BALBOAS AT 1950 PRICES)

SEMI-LOGARITHMIC SCALE




/1946 was

1946 was recovered only in 1954.

This development of aggregate demand raises a series of questions. We have to determine, first, what factors account for the high level of aggregate demand in the immediate post-war years and what caused the sudden and violent contraction in the following years; and next, what caused the recovery of aggregate demand after 1950, and what factors made possible its continuous growth in later years. It also has to be asked whether the trend of aggregate demand described above is merely a phenomenon of a cyclical type or whether it reflects some more fundamental process connected with the structure and development of Panama's economy. In other words, was the depression suffered by Panama's economy after the war merely a passing phase of insufficient demand which had only to be overcome for economic activity to recover, or was it, on the contrary, due to a fall in demand which resulted in a change in the pattern of demand and thus affected the country's economic structure?

Analysis of each of the components of aggregate demand will to a large extent clarify the above questions. Firstly, it will enable us to identify the main dynamic factors and regressive elements in Panama's economic system. Secondly, the relative trend of these components will indicate the extent to which recent economic developments have been accompanied by a change in the underlying conditions. The latter problem, however, can be fully elucidated only by analysis of the repercussions on the productive system of the contraction, change in structure and later recovery of aggregate demand. An attempt at such an analysis will be made below in connexion with the subject of aggregate supply.

It is worth mentioning at once, however, that the most important trend which Panama's economy underwent in the period 1945-56 was, precisely, a radical alteration in the distribution of aggregate demand as between the external and the domestic components. In view of the influence of this trend on the other aspects of the country's economic development, it will be dealt with here by way of preamble and in order to lay down a guide line to the later analysis.

/2. Internal

## 2. Internal demand and external demand

The factor which directs the productive process and determines the level of economic activity is aggregate demand. Particularly important among the components of aggregate demand is external demand, represented in this case by the capacity to import. It is not a matter simply of the quantitative importance of external demand but rather of its functional preponderance. The capacity to import is the exogenous factor par excellence in Panama's economy, and its influence on the other components of aggregate demand - private consumption and investment and public expenditure - is decisive. Consequently, the stimuli to economic development - or the lack of them - can in the main be traced back to external demand. The behaviour of its capacity to import is thus the main clue to Panama's economic situation.

Before embarking on an examination of the various factors determining the capacity to import, it will be useful first to consider in broad outline the evolution of this component of aggregate demand in relation to the behaviour of internal demand. Panama's external demand was at its highest level in the first two years of the period (see table I-3 and figure I-1); in 1945 it reached a figure of 132 million balboas, making up more than one-third of aggregate demand. In the following years, and particularly from 1947 until 1951, the capacity to import declined through a series of violent contractions, amounting in 1951 to only 70 million balboas. This implied an absolute contraction in external demand to almost half its 1945 volume, and a decline in relative terms also: from more than one-third of aggregate demand in 1947, external demand sank to barely 20 per cent in 1950.

In the following years, although the capacity to import recovered by comparison with the year 1950, amounting in 1955 and 1956 to 93 million balboas, it still remained at a level 30 per cent below the initial figure. But while aggregate demand achieved a recovery, thanks to a rise in internal demand, the capacity to import was unable to win back its share in the total and levelled off at the figure of 20 per cent mentioned above. The development of aggregate demand during the period 1945-56 was thus characterized by an important structural change: whereas in the first

/years of

years of the period internal demand accounted for barely two thirds of aggregate demand, between 1945 and 1951 it rose to about 80 per cent, and this proportion was maintained in the following years.

The change which took place in the distribution of aggregate demand as between its domestic and external components was perhaps the most important development experienced by Panama's economy during the period under review. The high level of aggregate demand in the first years after the war and its drastic contraction in the following years was due almost entirely to the behaviour of the capacity to import in those years. Its later recovery was not due to the same extent to external demand; and this in itself betokens a structural change in the country's economy. The contraction and reorientation of aggregate demand - and the consequent reorganization of the different branches of production - indicate the extent to which Panama's economic system is attenuating the influence of external demand and succeeding in initiating a process of economic development directed primarily towards, and largely influenced by the internal market.

Apart from differences of period and circumstances, the crisis in Panama's external trade during the period 1946-51 can be compared from the point of view of its effects on the country, with the great world crisis of 1929-32 and its effects on the Latin American countries. For most of the latter this meant recasting their domestic economies and initiating a process of industrialization and economic development. Broadly speaking and despite differences of institutional structure and economic policy, this has also been the effect of the recent crisis in Panama's foreign trade.

## 3. External demand: evolution of the capacity to import

### (a) Evolution of aggregate capacity to import, quantum and terms of trade

In 1945 the capacity to import reached a figure of 131.7 million balboas, i.e. more than a third of aggregate demand (see table I-4). From this high initial figure the level declined to 70.0 million balboas in 1951, a fall of 46.8 per cent. Apart from its exceptional intensity,

/Table I-4

Table I-4

PANAMA: AGGREGATE CAPACITY TO IMPORT, QUANTUM OF EXPORTS AND TERMS OF TRADE

(Millions of balboas at 1950 prices)

| Year | Capacity to import | Quantum | Terms of trade (1950 = 100) |
|---|---|---|---|
| 1945 | 131.7 | 135.8 | 97.0 |
| 1946 | 123.7 | 117.6 | 105.1 |
| 1947 | 83.8 | 92.8 | 90.3 |
| 1948 | 83.3 | 91.1 | 91.5 |
| 1949 | 86.0 | 88.3 | 97.4 |
| 1950 | 78.0 | 78.0 | 100.0 |
| 1951 | 70.0 | 71.7 | 97.7 |
| 1952 | 71.7 | 75.7 | 94.8 |
| 1953 | 78.5 | 77.2 | 101.7 |
| 1954 | 85.3 | 76.8 | 111.9 |
| 1955 | 92.5 | 82.7 | 111.9 |
| 1956 | 92.4 | 86.0 | 107.4 |

Source: Tables B-37, B-42 and B-46.

/this contraction

this contraction was characterized by the fact that in the six years 1945-1951 there was only one year - 1949 - in which no decline was registered. With that exception the fall in external demand during the period took the form of successive annual contractions. It is important to stress this fact, for if the contraction had occurred over a shorter period of time and had been followed by a stabilization, internal economic activity would probably have recovered more rapidly. As things were, the economy was unable to recover owing to the negative factors which recurred with added effect year after year.

The lowest trough of external demand, in 1951, was followed by a phase of recovery which lasted until 1955; and in the last two years of the period the figure stabilized at a level considerably below the initial level - i.e. 70.1 per cent of the 1945 figure. It should be pointed out that between 1951 and the final years of the period there was a recovery of 31.9 per cent, which is very important for the purposes of what follow in this study since it helps us to understand the recovery of economic activity in the years in question.

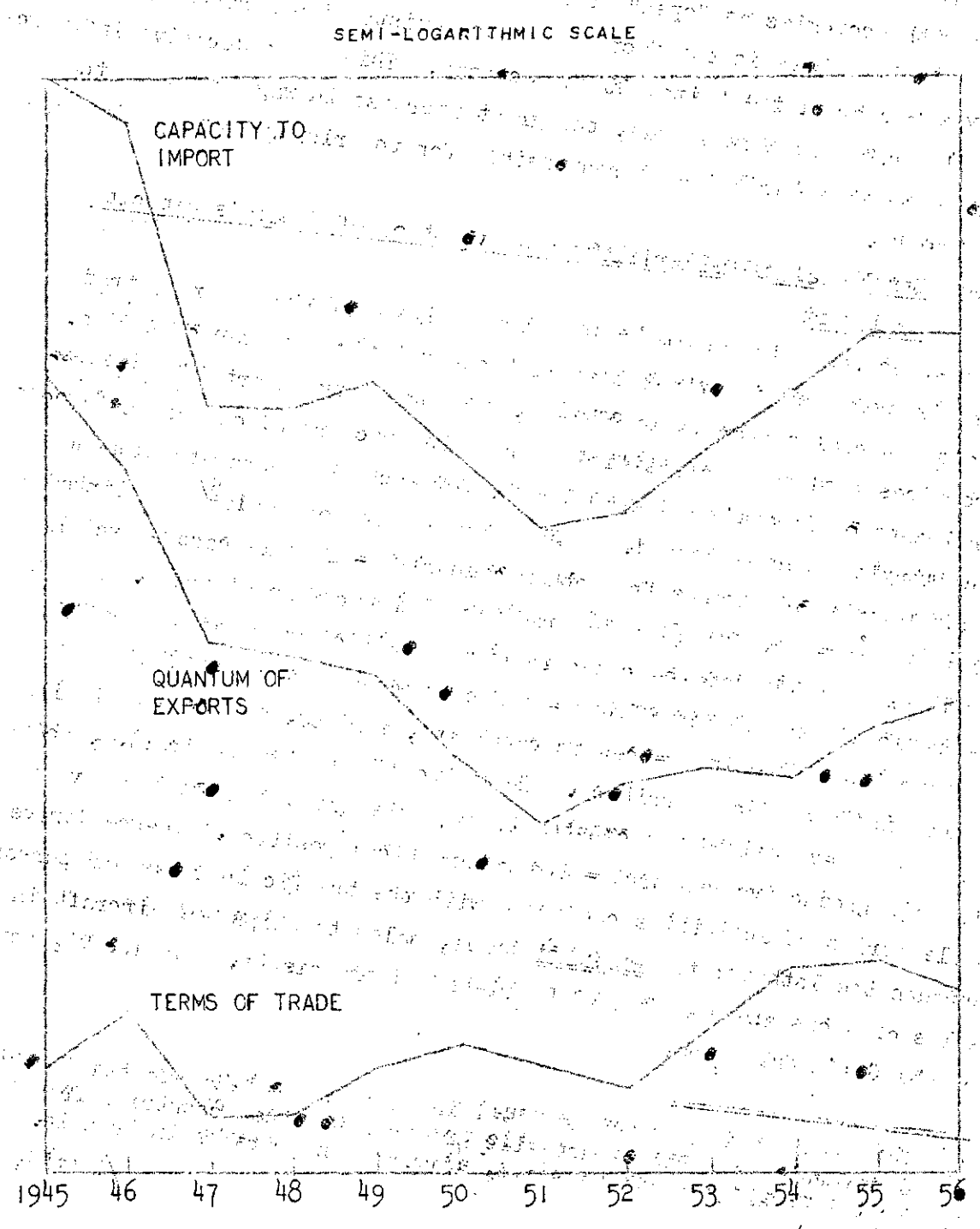
The quantum of exports follows a curve almost parallel to that of the capacity to import and is thus clearly identifiable as the factor determining the latter (see figure I-2). However, during the first six years of the period the quantum experienced a rather more marked and regular decline than that of the capacity to import, while in the second six-year period its recovery was less pronounced, in 1956 reaching barely 63.4 per cent of the level registered in 1945. This contraction of the quantum of exports was not fully reflected in the capacity to import thanks to the fact that the terms of trade showed a slight rise the index for 1956 exceeding by 10.5 per cent the figure for the initial year. It is interesting to note that the terms of trade index was relatively free from sharp fluctuations, particularly if we disregard the first three years of the period, which were characterized by very abnormal fluctuations in prices both in Panama and in the United States and other countries.

The continuity apparent in the long-term trend and in the annual fluctuations of the terms of trade index - in conspicuous contrast to

/figure I-2

FIGURE I - 2

PANAMA : CAPACITY TO IMPORT, QUANTUM OF EXPORTS AND TERMS OF TRADE
(ALL AGGREGATE FIGURES)




/the situation

the situation in most Latin Americancountries - arises from two very important features of Panama's economy. The first is the great variety of the country's external transactions. The second is rather more institutional in character: the close integration of Panama's economy with the international economy, more particularly that of the United States. After the collapse of the gold standard with the formation of a group of planned-economy countries and the advent of the world dollar shortage problem, there remained few countries in the world with economies as "open" as Panama's.

Added to the above is the fact that there exists within Panamanian territory a sector of the United States economy. This has a decisive influence on Panama's price and wage levels; the great increase in wage rates in the Canal Zone was to a large extent responsible for the rising trend in Panama's terms of trade.

(b) Structural characteristics and evolution of Panama's capacity to import

In an economy like Panama's detailed analysis of the external trade pattern is even more important than with other Latin American countries. Panama's external sector is so complex, that the many export items of goods and services need to be classified against the background of the basic determinants of Panama's external trade, for each is a separate element in the country's external demand. Registered exports of goods[5/] are linked with the development of imports from other countries - in this case especially the United States - and form part of traditional international trade. At the same time, Panama's strategic geographical position makes it a crossroads for international sea and air routes - a factor which was responsible for the construction of the inter-oceanic canal and, earlier, the trans-Isthmian railway in Panamanian territory. These two lines of communication, above all the first, have helped the country to take the greatest possible advantage of its main productive resource - its geographical position. Thence derive a whole series of activities connected with the traffic in goods and persons through the Isthmus: the entrepôt trade, sales to ships and aircraft in transit, sales of goods and services to tourists and transients, and also the activities of the Colón Free Zone.

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5/ This designation, which is usual in Panama, has been adopted in order to distinguish exports of domestic products to other countries from sales to the Canal Zone and to ships, aircraft and persons in transit.

/Lastly, the

Lastly, the operation and maintenance of the Panama Canal has given rise in the territory known as the Canal Zone to a large market for consumer, intermediate and capital goods and services, and to the formation of a labour market of great importance to Panama's labour force.

In accordance with the classification of the various independent factors determining Panama's external demand made in earlier sections, our analysis will be based on the following categories, which will be dealt with in the order given: (a) registered exports of goods, (b) transactions connected with traffic and tourism, and (c) transactions with the Canal Zone. The evolution of the capacity to import is the outcome of developments in the last two categories (see figure I-3). The capacity to import deriving from registered exports of goods, however, shows a contrary evolution. In 1945 it amounted to barely 10.5 million balboas; but towards the end of the period it fluctuated between 26 and 32 million balboas, whereas the capacity to import generated by the Canal Zone and by transit and tourist transactions fell to practically half its former volume (see table I-5).

As a result of these developments, the composition of the capacity to import underwent a complete transformation. In 1945, exports of goods accounted for barely 8.0 per cent of external demand; after 1953 they amounted to one-third. During the first years of the period transit traffic and tourist transactions accounted for 18 per cent of external demand; from 1951 onwards transactions under this head levelled off at about 14 per cent. Finally, in the first year of the period the Canal Zone accounted for three quarters of the aggregate capacity to import; but the proportion declined gradually until 1951 and thereafter remained below 60 per cent.

The above observations indicate that the trend of Panama's capacity to import after the war was due primarily to the decline in the external demand deriving from the Canal Zone and from activities connected with traffic and tourism, and that its effects were most noticeable in the quantum of these exports. But developments in registered exports of goods and in the terms of trade tended to mitigate the negative effects of these factors.

/Figure I-3

PANAMA : CAPACITY TO IMPORT, TOTAL AND BY PRINCIPAL CATEGORIES

(MILLIONS OF BALBOAS AT 1950 PRICES)

SEMI-LOGARITHMIC SCALE

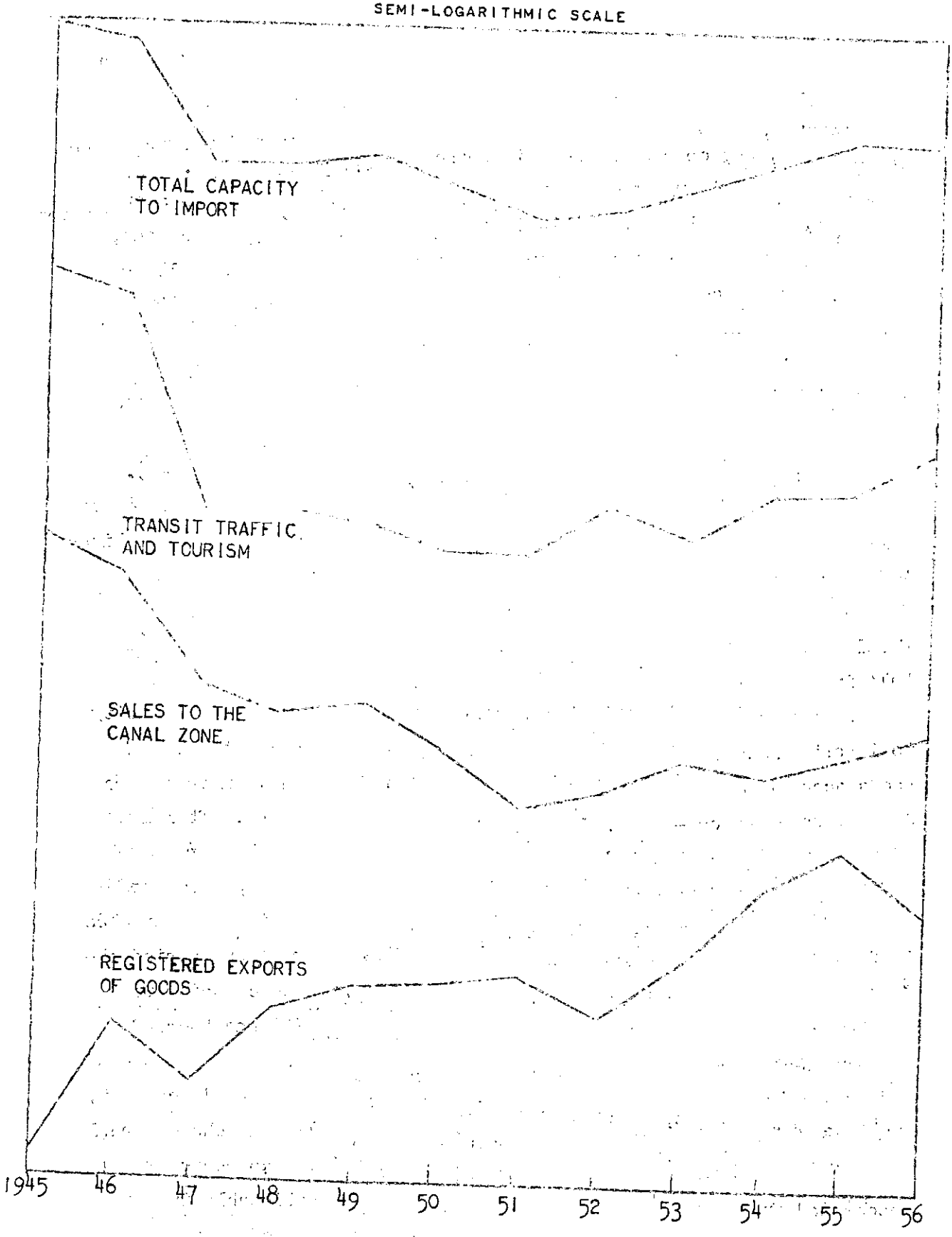

Table I-5

PANAMA: COMPOSITION OF THE CAPACITY TO IMPORT

| Year | Total | Registered exports | Traffic and tourism | Canal Zone |
|---|---|---|---|---|
| | (Millions of balboas at 1950 prices) | | | |
| 1945 | 131.7 | 10.5 | 23.6 | 97.6 |
| 1946 | 124.7 | 16.9 | 21.8 | 86.1 |
| 1947 | 83.8 | 13.8 | 10.7 | 59.2 |
| 1948 | 83.3 | 18.1 | 10.8 | 54.5 |
| 1949 | 86.0 | 19.4 | 10.3 | 56.2 |
| 1950 | 78.0 | 19.6 | 9.5 | 48.8 |
| 1951 | 70.0 | 20.4 | 9.4 | 40.2 |
| 1952 | 71.7 | 17.9 | 11.2 | 42.7 |
| 1953 | 78.5 | 21.3 | 10.1 | 47.1 |
| 1954 | 85.3 | 27.8 | 11.8 | 45.8 |
| 1955 | 92.5 | 31.7 | 11.9 | 48.9 |
| 1956 | 92.4 | 25.7 | 13.7 | 53.0 |
| | (Percentages) | | | |
| 1945 | 100.0 | 8.0 | 17.9 | 74.1 |
| 1946 | 100.0 | 13.6 | 17.5 | 69.0 |
| 1947 | 100.0 | 16.5 | 12.8 | 70.6 |
| 1948 | 100.0 | 21.7 | 13.0 | 65.4 |
| 1949 | 100.0 | 22.6 | 12.0 | 65.3 |
| 1950 | 100.0 | 25.1 | 12.2 | 62.6 |
| 1951 | 100.0 | 29.1 | 13.4 | 57.4 |
| 1952 | 100.0 | 25.0 | 15.6 | 59.6 |
| 1953 | 100.0 | 27.1 | 12.9 | 60.0 |
| 1954 | 100.0 | 32.6 | 13.8 | 53.7 |
| 1955 | 100.0 | 34.3 | 12.9 | 52.9 |
| 1956 | 100.0 | 27.8 | 14.8 | 57.4 |

Source: Table B-37.

/(c) Capacity

(c) Capacity to import generated by registered exports of goods

Between 1945 and 1956 the external demand for registered goods grew from 10.5 million to 25.7 million balboas an increase of 145.1 per cent (see table I-6). This rise - which did much to counterbalance the fall in the other two sectors of external demand - was due to the fact that an increase took place both in the quantum of registered exports and in their relative prices - in the first case of more than 200 per cent and in the second of 20 per cent.

In general, whereas the quantum of exports determines the trend of the capacity to import, the terms of trade index is responsible for the latter's annual contractions (see figure I-4). Three well-defined stages can be discerned in the evolution of the quantum curve. The first covers the years 1945-48 and is marked by so large an increase that the initial volume of exports is doubled in barely three years. During the next stage, up to 1953, the quantum of exports remains stationary about an average of 20 million balboas. The third phase begins in 1954, when the volume of exports begins to expand again with some intensity. The interruption of this phase by the contraction of 1956 must be considered only temporary since it was due to a poor agricultural year which particularly affected banana exports. The reasons for these different stages in the development of the volume of Panama's exports may be deduced from the way in which exports of the country's main export products have increased.

The most important of these, by far, is the banana. During the twelve post-war years, bananas accounted for 70 to 80 per cent of the quantum of registered exports of goods (see table I-7). Moreover, Panama has been one of the main world exporters of bananas. In the last five years before the war its exports made up 8.9 per cent of the world total, being exceeded only by those of Honduras, Jamaica and Mexico - and by very narrow margins. During the post-war years Panama has succeeded almost every year in maintaining its share in world exports; only in the period 1951-54 did this share fall below 8 per cent. Despite the changes which have come about in the world structure of banana supply, Panama has continued to hold fourth place among world exporters, having

Table I-6

PANAMA: CAPACITY TO IMPORT, QUANTUM AND TERMS OF TRADE IN RELATION TO REGISTERED EXPORTS OF GOODS

(Millions of balboas at 1950 prices)

| Year | Capacity to import | Quantum | Terms of trade (1950 = 100) |
|---|---|---|---|
| 1945 | 10.5 | 11.7 | 90.0 |
| 1946 | 16.9 | 18.6 | 90.7 |
| 1947 | 13.8 | 19.2 | 72.2 |
| 1948 | 18.1 | 21.0 | 86.2 |
| 1949 | 19.4 | 21.3 | 91.5 |
| 1950 | 19.6 | 19.6 | 100.0 |
| 1951 | 20.4 | 20.5 | 99.2 |
| 1952 | 17.9 | 19.5 | 91.7 |
| 1953 | 21.3 | 20.9 | 101.9 |
| 1954 | 27.8 | 22.7 | 122.3 |
| 1955 | 31.7 | 27.0 | 117.4 |
| 1956 | 25.7 | 23.7 | 108.7 |

Source: Tables B-37, B-42 and B-46.

/Figure I-4

FIGURE I - 4

PANAMA : CAPACITY TO IMPORT, QUANTUM AND TERMS OF TRADE IN RELATION TO REGISTERED EXPORTS OF GOODS

SEMI-LOGARITHMIC SCALE

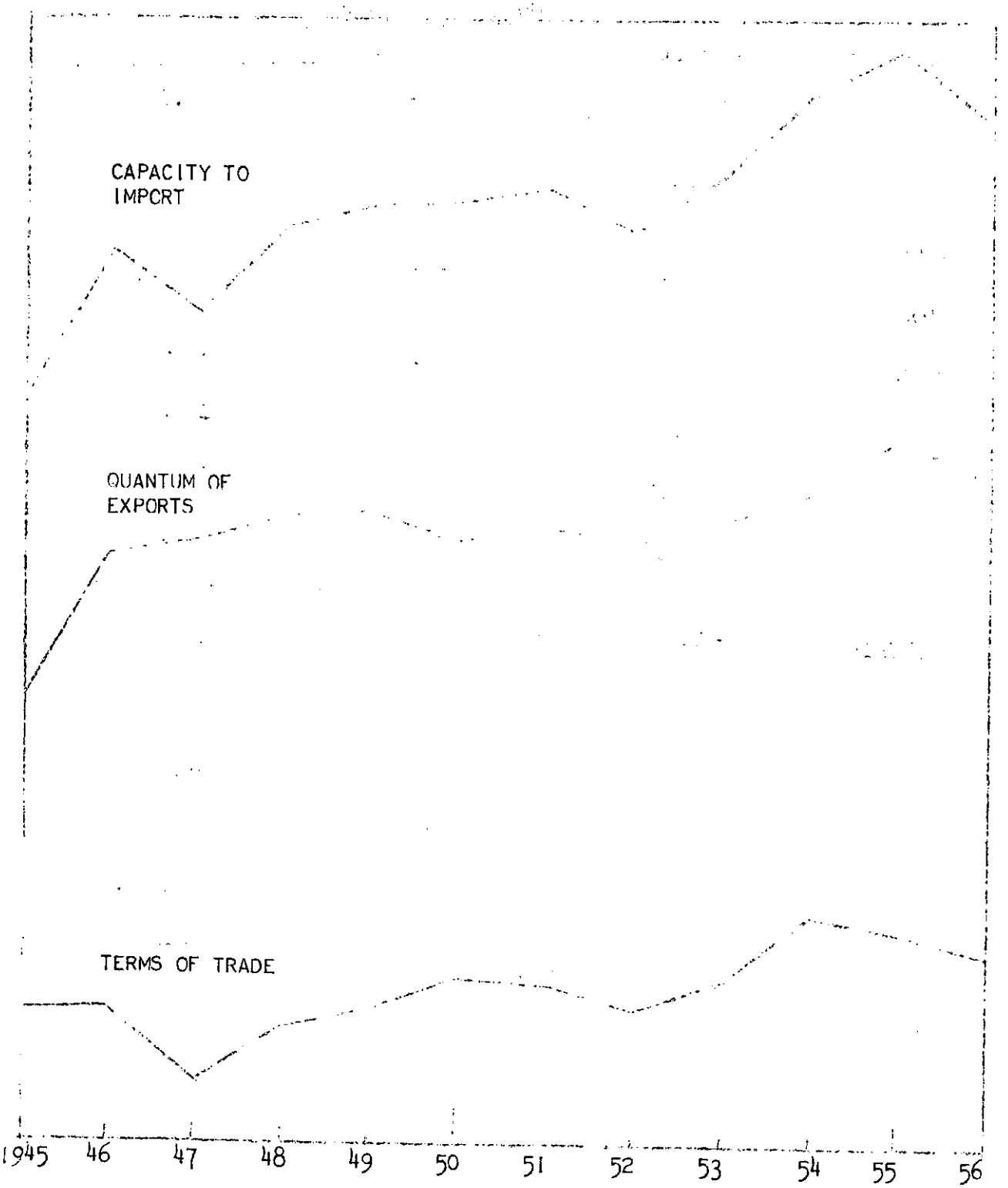

Table I-7

PANAMA: QUANTUM OF EXPORTS, TOTAL AND BY PRINCIPAL PRODUCTS

(Thousands of balboas at 1950 prices)

| Year | Total | Bananas | Abaca | Cacao | Sugar | Shrimps | Cement | Wood | Others |
|---|---|---|---|---|---|---|---|---|---|
| 1945 | 11 669 | 7 534 | 2 729 | 263 | 0 | 0 | 0 | 0 | 1 143 |
| 1946 | 18 610 | 15 196 | 1 283 | 1 100 | 0 | 0 | 0 | 51 | 980 |
| 1947 | 19 169 | 13 553 | 2 817 | 1 496 | 0 | 0 | 0 | 305 | 998 |
| 1948 | 20 973 | 16 572 | 1 684 | 1 345 | 0 | 0 | 290 | 327 | 755 |
| 1949 | 21 253 | 16 972 | 1 639 | 1 115 | 40 | 0 | 243 | 115 | 1 129 |
| 1950 | 19 618 | 14 706 | 1 917 | 959 | 393 | 169 | 99 | 474 | 901 |
| 1951 | 20 535 | 14 361 | 1 605 | 612 | 736 | 682 | 851 | 745 | 943 |
| 1952 | 19 487 | 12 003 | 2 203 | 866 | 454 | 1 332 | 1 268 | 610 | 751 |
| 1953 | 20 937 | 13 731 | 1 389 | 849 | 540 | 1 999 | 703 | 608 | 1 118 |
| 1954 | 22 699 | 16 690 | 884 | 1 169 | 510 | 1 954 | 253 | 352 | 887 |
| 1955 | 26 998 | 20 550 | 952 | 995 | 0 | 2 327 | 159 | 443 | 1 572 |
| 1956 | 23 690 | 18 246 | 0 | 825 | 10 | 3 286 | 33 | 536 | 754 |

Source: Statistical and Census Department, Panama.

/been preceded

been preceded in recent years[6/] by Costa Rica, Honduras and Ecuador - especially the latter.

During the period 1946-54 Panama's banana exports fluctuated between 4.0 and 5.7 million stems; but the general trend was stationary (see table I-8). This was due to the fact that the area under banana plantations remained constant at about 8 000 hectares. The marked short-term fluctuations in exports were due principally to the winds, storms, floods and droughts which affected annual output.

The two extremes of the period 1945-56, however, were marked by different developments. In the first year, exports were abnormally low owing to the demand and transport problems created by the Second World War. During the war years exports to the United States - Panama's main and almost only market - fell practically to half. The reason for this sharp contraction was principally the limited share of transport capacity which the war left free for the transport of goods such as bananas. When, in 1945, the war ended and international sea transport returned to normal, imports by the United States - and exports by Panama and other countries closely linked with the United States market - were well on the way to recovery.[7/] This accounts for the sudden and substantial increase in Panama's banana exports between 1945 and 1946.

More important is the phenomenon which occurred in the last years of the series, when the level of exports rose considerably above that which had prevailed between 1946 and 1954. In 1955, exports amounted to more than 7.0 million stems, and after a decline to 6.2 million stems in 1956 due to fortuitous causes, the figure rose again to an even higher level in 1957. The reason for this was an extension for the first time in more than two decades of the area under banana plantations.

The product next in importance to bananas during most of the post-war years was abaca. Production of this fibre was begun during the Second World War by the same company which controls practically the entire

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6/ See: ECLA, Economic Bulletin for Latin America (The international banana market -- its evolution and prospects), Vol. III, N° 2, Santiago, Chile, 1958, p. 29, table 19.

7/ Op. cit., table 7, pp. 15-16 passim.

Table I-8

PANAMA: EXPORTS BY IMPORTANT PRODUCTS

| Product | Units (in thousands) | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bananas | stems | 2 573 | 5 190 | 4 629 | 5 660 | 5 796 | 5 022 | 4 904 | 4 099 | 4 689 | 5 700 | 7 018 | 6 231 |
| Cacao | tons | 371 | 1 549 | 2 106 | 1 895 | 1 570 | 1 350 | 862 | 1 219 | 1 195 | 1 647 | 1 401 | 1 163 |
| Abaca | tons | 5 074 | 2 385 | 5 238 | 3 132 | 3 048 | 3 565 | 2 984 | 4 096 | 2 583 | 1 643 | 1 770 | - |
| Shrimps | tons | - | - | - | - | - | 138 | 563 | 1 099 | 1 649 | 1 612 | 1 920 | 2 711 |
| Sugar | tons | - | - | - | - | 250 | 2 455 | 4 599 | 2 836 | 3 378 | 3 188 | - | 61 |
| Cement | tons | - | - | - | 9 517 | 7 962 | 3 255 | 27 891 | 41 580 | 23 047 | 8 279 | 5 226 | 1 074 |
| Timber | cubic feet | 3 | 586 | 3 494 | 3 748 | 1 323 | 5 424 | 8 534 | 6 992 | 6 963 | 4 031 | 5 079 | 6 143 |

Source: Statistical and Census Department, Foreign Trade Yearbooks, Panama.

production of bananas for export. This was due to action taken by the United States Government to replace its usual source of supply, the Philippines. Exports of abaca were maintained at levels between 1.3 and about 3.0 million balboas for almost the entire period; but from 1954 they declined considerably and in 1956 came to an end completely (table I-7).

The same company accounts for more than half of Panama's exports of cacao, the product which has occupied third place in the quantum of exports for most of the post-war years. Apart from the years 1945 and 1951, in which exports were exceptionally low, Panama normally exported between 1 200 and 2 100 tons annually (table I-8). The figures have varied considerably as a result of the equally marked fluctuations in international prices (see figure I-5). The exports curve shows another important fact. Between 1946 and 1950 cacao exports were maintained at an average level much higher than that recorded in the next six years, despite the rise in prices. The reason for this apparently contradictory phenomenon is the fact that the banana company's cacao plantations were established in order to make use of land rendered unfit for banana production. As has been said, in 1950 or there abouts it began replanting these areas with bananas. The area of commercial plantations of cacao contracted accordingly, and exports of cacao fell off up to 1951. After that they closely follow the fluctuations in the export price.

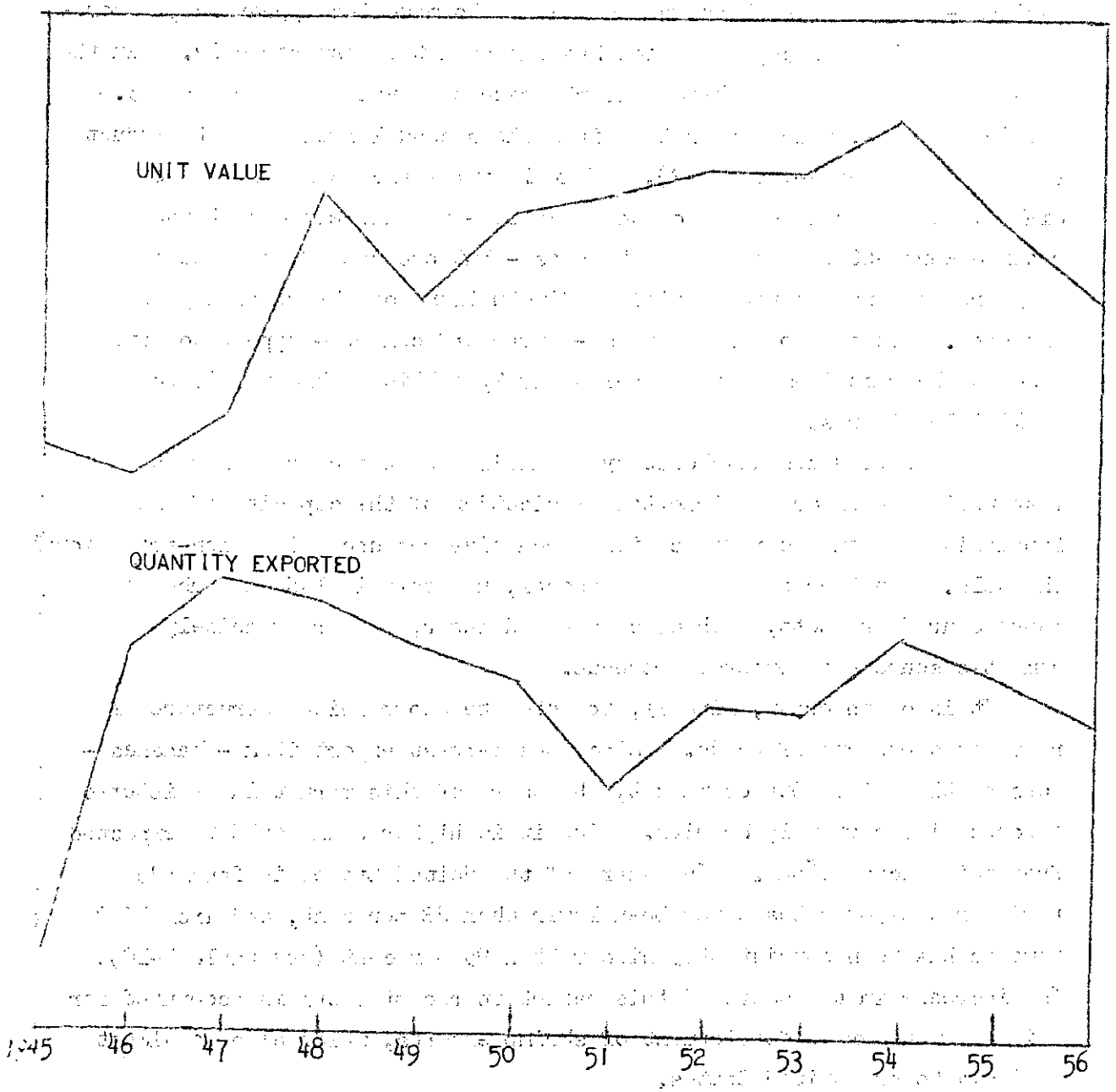
The period 1945-56 is characterized by the emergence of new export products, in particular shrimps, sugar, cement and wood - although the quantities involved are still not significant. They all made their appearance between 1947 and 1951 and developed considerably in the succeeding years. If we divide export products into three categories - traditional exports (bananas, cacao and abaca), recent exports (those just mentioned "others" (minor products), a very interesting phenomenon may be observed. During the initial three years of the series traditional exports accounted for 93 per cent of the quantum exported and "others" for the remaining 7 per cent. Recent exports, which had barely begun in 1947, made up less than 1 per cent. In 1951-53, however, the share of recent exports rose to an average of 17 per cent for the period, and

/Figure I-5

FIGURE I - 5

PANAMA : QUANTITY AND UNIT VALUE OF CACAO EXPORTS

SEMI-LOGARITHMIC SCALE




/the relative

the relative importance of the other two categories declined accordingly. In the final three year period, when banana exports took a distinct upward turn, the share of recent exports levelled off at about 13 per cent, while traditional exports accounted for 82 per cent and "others" for 4 per cent (see table I-9).

Among the recent items, particular importance attaches to exports of shrimps - the product which was the latest to make its appearance, exports beginning only in 1950, but which has expanded the most steadily. In the last year of the period shrimp exports reached a value of more than 3.0 million balboas, which makes this item the second largest export product (see again tables I-7 and I-8). Next in importance come exports of timber, not so much because of their value - the highest export totals reached were 600 000 to 700 000 balboas - but because of the fact that they are not subject to the violent fluctuations of the remaining two products. Exports of these items - sugar and cement - appear to have reached their maximum towards 1951 or 1952, falling subsequently to negligible figures.

The new products developed by Panama's export sector during the last twelve years are an important indication of the capacity of the Panamanian economy to redirect its productive resources into non-traditional channels. Furthermore, the new exports, not only include a number of manufactured products, such as cement and sugar, but are genuinely domestic sources of external revenue.

It is of interest, finally, to note the geographical structure of registered exports of goods. Since the largest export item - bananas - goes to the United States market, the share of this market in registered exports will obviously be high. But it is higher than could be expected from this factor alone. The share of the United States in Panama's registered exports has never been lower than 88 per cent, and from 1952 onwards has been consistently higher than 95 per cent (see table I-10). The increase in the share of this market in recent years is accounted for mainly by the great development of shrimp exports, which also go almost entirely to the United States.

/Table I-9

Table I-9

PANAMA: QUANTUM OF TRADITIONAL EXPORTS AND OF RECENT EXPORTS

(Percentages)

| Annual average | Total | Traditional exports a/ | Recent exports b/ | Others |
|---|---|---|---|---|
| 1945-47 | 100 | 93 | - | 7 |
| 1951-53 | 100 | 78 | 17 | 5 |
| 1954-56 | 100 | 82 | 13 | 4 |

Source: Table I-7.

a/ Bananas, cacao and abaca.

b/ Sugar, cement, shrimps and timber.

/Table I-10

Table I-10

PANAMA: CURRENT VALUES OF REGISTERED EXPORTS BY DESTINATION, 1945-56

| Year | Total | United States | Central America | Rest of world | Total | United States | Central America | Rest of world |
|---|---|---|---|---|---|---|---|---|
| | | (Thousands of balboas) | | | (Percentage of total) | | | |
| 1945 | 8 657 | 8 126 | 2 | 529 | 100.0 | 93.9 | - | 6.1 |
| 1946 | 13 477 | 11 841 | 29 | 1 607 | 100.0 | 87.9 | 0.2 | 11.9 |
| 1947 | 13 670 | 12 380 | 172 | 1 118 | 100.0 | 90.6 | 1.3 | 8.2 |
| 1948 | 19 082 | 18 203 | 58 | 821 | 100.0 | 95.4 | 0.3 | 4.3 |
| 1949 | 19 929 | 18 546 | 85 | 1 298 | 100.0 | 93.1 | 0.4 | 6.5 |
| 1950 | 19 618 | 18 304 | 78 | 1 236 | 100.0 | 93.3 | 0.4 | 6.3 |
| 1951 | 22 013 | 19 837 | 814 | 1 362 | 100.0 | 90.1 | 3.7 | 6.2 |
| 1952 | 19 188 | 17 177 | 1 417 | 594 | 100.0 | 89.5 | 7.4 | 3.1 |
| 1953 | 22 857 | 21 415 | 700 | 742 | 100.0 | 93.7 | 3.1 | 3.2 |
| 1954 | 28 238 | 27 080 | 199 | 959 | 100.0 | 95.9 | 0.7 | 3.4 |
| 1955 | 32 428 | 31 303 | 145 | 980 | 100.0 | 96.5 | 0.4 | 3.0 |
| 1956 | 27 935 | 27 296 | 86 | 553 | 100.0 | 97.7 | 0.3 | 2.0 |

Source: Statistical and Census Department, Panama.

/The share

The share of exports to the Central American countries in Panama's total exports during the post-war years has been insignificant. The years 1951-53, when it fluctuated between 3.0 and 7.4 per cent, were an exception, due to sales of cement by Panama to various Central American countries, in particular El Salvador, during those years. In 1953 a Salvadorian factory began production; two years later it added a second kiln, and at the same time, production began in a Nicaraguan plant.[8/] These developments, and other factors connected with cement prices, eliminated the greater part of Panama's market, so that exports to this region fell again to their earlier level.

(d) Capacity to import generated by transit and tourist activities

The external demand originating in activities connected with transit traffic and tourism amounted in 1945 to 23.6 million balboas and in 1946 to 21.8 million balboas (see table I-11). In the following year the figure was reduced by half, and in subsequent years it continued to decline, reaching a minimum of 9.4 million balboas in 1951. Thereafter a recovery began, the figure rising to 13.7 million balboas in 1956 - an increase of 45.7 per cent over the minimum year, but still 41.9 per cent below the level of 1945.

The quantum of exports of goods and services connected with the transit traffic and tourism shows a slightly more favourable trend than the corresponding capacity to import. This is due to the fact that the terms of trade index deteriorated by 16.5 per cent over the period, although in general, as is usual with Panama's external trade, it shows remarkable stability (see figure I-6).

The drastic annual fluctuations and the different levels of the quantum curve are due almost entirely to changes in the expenditures of foreign visitors. Over the greater part of the period this item accounted for more than 60 per cent of the total for the sector - in the first two post-war years over 80 per cent (see table I-12). The actual

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8/ ECLA, Central American Economic Co-operation Committee, Posibilidades de un mercado común centroamericano para las industrias de materiales de construcción. Possibilities of a Central American Common Market for the Building Materials Industries), (November 1957), pp. 13-14.

Table I-11

PANAMA: CAPACITY TO IMPORT, QUANTUM AND TERMS OF TRADE IN RELATION TO TRANSIT TRAFFIC AND TOURISM

(Millions of balboas at 1950 prices)

| Year | Capacity to import | Quantum | Terms of trade (1950 = 100) |
|---|---|---|---|
| 1945 | 23.6 | 20.9 | 113.0 |
| 1946 | 21.8 | 19.0 | 91.9 |
| 1947 | 10.7 | 10.4 | 97.0 |
| 1948 | 10.8 | 11.4 | 106.0 |
| 1949 | 10.3 | 10.0 | 103.6 |
| 1950 | 9.5 | 9.5 | 100.0 |
| 1951 | 9.4 | 10.2 | 92.3 |
| 1952 | 11.2 | 14.3 | 78.2 |
| 1953 | 10.1 | 10.8 | 93.9 |
| 1954 | 11.8 | 12.5 | 94.6 |
| 1955 | 11.9 | 12.0 | 98.9 |
| 1956 | 13.7 | 14.3 | 94.4 |

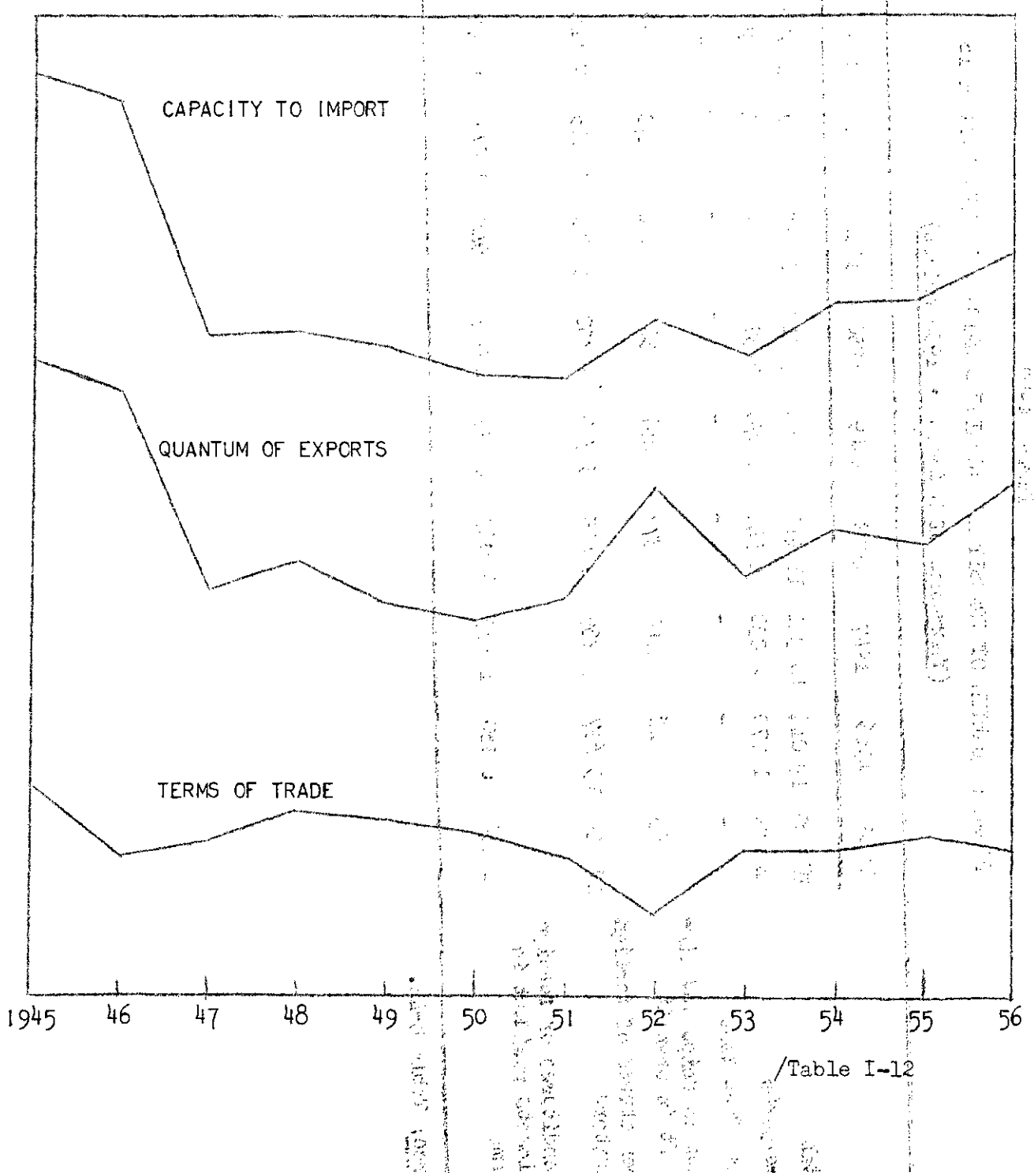
Source: Tables B-37, B-42 and B-46.

/Figure I-6

FIGURE I - 6

PANAMA : CAPACITY TO IMPORT, QUANTUM OF EXPORTS AND TERMS OF TRADE IN RELATION TO TRANSIT TRAFFIC AND TOURISM

SEMI-LOGARITHMIC SCALE




/Table I-12

Table I-12

PANAMA: QUANTUM OF TRANSIT AND TOURIST SERVICES AND ITS COMPONENTS

(Thousands of balboas at 1950 prices)

| | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| otal | 20 865 | 19 044 | 10 364 | 11 418 | 9 998 | 9 549 | 10 233 | 14 331 | 10 770 | 12 479 | 12 027 | 14 331 |
| e-exports | 1 669 | 1 779 | 2 830 | 4 549 | 2 878 | 2 329 | 2 939 | 5 595 | 2 312 | 2 346 | 2 455 | 2 350 |
| olón Free Zone | - | - | - | - | - | - | - | - | 164 | 687 | 844 | 1 044 |
| ales to ships and air-craft in transit | 63 | 48 | 116 | 377 | 257 | 301 | 581 | 470 | 88 | 110 | 54 | 2 |
| xpenditures of foreign visitors | 17 439 | 15 657 | 6 239 | 5 425 | 5 788 | 5 832 | 5 765 | 7 225 | 7 113 | 8 243 | 7 429 | 9 551 |
| xpenditures of foreign iplomats resident in anama | 1 694 | 1 560 | 1 179 | 1 067 | 1 075 | 1 087 | 948 | 1 041 | 1 093 | 1 093 | 1 185 | 1 384 |

ource: Table B-42.

figures for these latter years were 17.4 million and 15.7 million balboas respectively, the result of the great volume of expenditure in Panama by crews of merchant ships and naval vessels particularly the latter. The number of such visitors in 1945 and 1946 was more than a million, so that even though their stay was relatively short and the per capita expenditure modest, the two items made up between 13 and 16 million balboas. These exceptional figures were due to traffic deriving from the war and the transport of troops, and when this came to an end in 1947 there was an enourmous contraction in both items. The number of members of naval crews fell from more than half a million in 1945 and 1946 to 38 000 in the following year and thereafter remained at this level. The number of members of crews of merchant ships declined from the same initial level to a number which fluctuated in the following decade about an average of 200 000. Consequently, the figure for the combined expenditures of foreign visitors fell between 1945 and the annual average for the years 1948-51 by about two-thirds.

The quantum of exports of goods and services connected with the transit traffic and tourism began to recover in 1952, and then gew with some intensity up to 1956. This recovery was due mainly to visitors classified as tourists, and to a lesser extent to transients and other classes of air travellers. The new airport at Tocumen and improved hotel services appear to have done something to increase the tourist attraction of Panama and to intensity air communications. The number of tourists rose rapidly after the war, from some 8 000 between 1947 and 1949 to about 20 000 between 1951 and 1953 and 26 000 in the last years of the period. In these latter years tourist expenditures accounted for 30 to 40 per cent of the total for foreign visitors (see again table B-44).

Re-exports are the second item in the sector of external demand connected with transit and tourist activities, at times reaching a proportion of 40 per cent of the total (see table I-12). In most years, however, the share of this item was less than 30 per cent, and in the last three years it was barely a fifth of the total. The quantum of re-exports also varied greatly in absolute terms, especially between 1945

/and 1952.

and 1952. In the first years very low figures were recorded, owing to supply difficulties and the lack of stocks of goods for re-export. In the succeeding years, when an attempt was made to compensate for the earlier shortage, the figures were abnormally high. In the following years they fluctuated, and it was only from 1952 onwards, when re-exports fell to an annual average of 2.3 million balboas, that a stable level was reached. This final phase coincided with the establishment and initial development of the Colón Free Zone, a new activity which absorbed part of the entrepôt trade formerly conducted from the fiscal territory of Panama, especially so far as concerns re-exports of goods by air. The appreciable decline in the unit value of re-exports in the later years reflects the important change which took place in the structure of re-exports through the sharp fall in exports of goods of low weight and high value.

Despite the exceptional initial growth of the Colón Free Zone - which in 1951 had barely begun operations but by 1953 was re-exporting goods to a value of 16.7 million balboas (at current prices) and more than doubled this figure in the succeeding years[9/] - its contribution to the economy has been very minor. The values added by the Colón Free Zone to Panama's gross product and capacity to import have amounted to scarcely one million balboas. As regards the value of its re-exports in 1956, the Zone's contribution to Panama's economy was less than 3 per cent. In relation to the capacity to import or the quantum of exports of goods and services, its share is barely 1 per cent, and its share in the gross product is only 0.3 per cent (see tables I-12, B-37 and B-13).

The great initial development of the Colón Free Zone, apart from reducing the volume of Panama's re-exports, eliminated sales of goods from Panamanian fiscal territory to ships and aircraft in transit. Exports for consumption on board increased rapidly between 1945 and 1951, from 63 000 balboas in the former year to more than half a million in the latter. The next year saw the first sizeable decline, and then, operations in the Free Zone having reached full swing, sales become insignificant (see again table I-12).

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9/ Statistical and Census Department, Nuestro Progreso en Cifras, Panama, 1958, p. 71.

/The last

The last item in this sector of external demand is expenditures in Panama by resident diplomatic and consular personnel. The quantum of these expenditures fluctuated throughout the period around a figure a little above a million balboas. Only in the initial years, probably owing to the presence of the troops stationed in the Canal Zone, did the figure rise above 1.5 million balboas. In 1956 a similar figure was recorded, perhaps because of the special conditions resulting from the Conference of American Presidents held in Panama that year.

(e) Capacity to import generated by sales to the Canal Zone

The capacity to import originating in sales to the Canal Zone accounted in 1945 for almost three quarters of Panama's external demand. As in the case of transit and tourist activities, and for similar reasons, the contraction which occurred in the following years was very severe. But whereas in that case the fall slackened after 1947, in sales to the Canal Zone the decline continued - except for a slight recovery in 1949 - until 1951. Between 1945 and 1948 the Canal Zone demand fell from 97.6 million balboas to 54.5 millions, a contraction of 44 per cent. Between 1949 - a year in which a slight recovery took place - and 1951 the level fell from 56.2 to 40.2 million balboas - a fall of about 30 per cent. During the first six post-war years as a whole, therefore, this sector of Panama's external demand suffered a decline of almost 60 per cent (see table I-13 and figure I-7).

During the second six years of the post-war period the capacity to import originating in the Canal Zone developed without much vigour, rising by 31.8 per cent between 1951 and 1956 to an absolute level of 53.0 million balboas. The modest extent of this recovery will be appreciated better if the final figure is compared with the opening figure in the series; it will be seen that the later figure is barely 54.3 per cent of that registered in 1945.

The quantum of goods and services exported to the Canal Zone suffered an even sharper decline than the capacity to import in the first six years of the period, and only barely recovered during the second six years. These deverging tendencies as regards the capacity to import follow naturally from the trend of relative external prices. By contrast with

/Table I-13

Table I-13

PANAMA: CAPACITY TO IMPORT, QUANTUM AND TERMS OF TRADE IN RELATION TO SALES TO THE CANAL ZONE

(Millions of balboas at 1950 prices)

| Year | Capacity to import | Quantum | Terms of trade index (1950 = 100) |
|---|---|---|---|
| 1945 | 97.6 | 103.3 | 94.5 |
| 1946 | 86.1 | 79.9 | 107.6 |
| 1947 | 59.2 | 63.2 | 93.6 |
| 1948 | 54.5 | 58.7 | 92.8 |
| 1949 | 56.2 | 57.0 | 98.5 |
| 1950 | 48.8 | 48.8 | 100.0 |
| 1951 | 40.2 | 40.9 | 98.3 |
| 1952 | 42.7 | 41.9 | 101.9 |
| 1953 | 47.1 | 45.5 | 103.3 |
| 1954 | 45.8 | 41.6 | 110.0 |
| 1955 | 48.9 | 43.7 | 112.0 |
| 1956 | 53.0 | 48.0 | 110.2 |

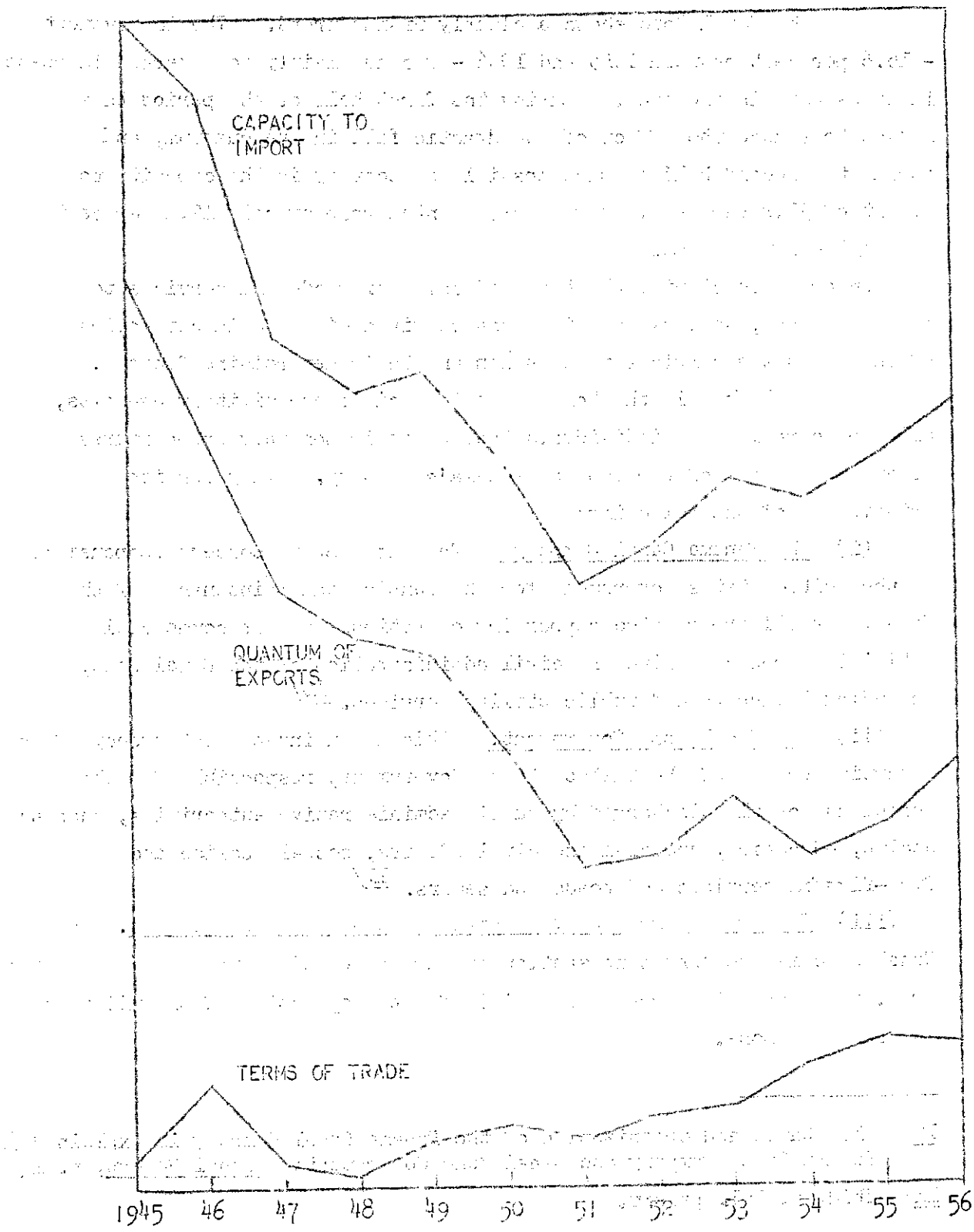
Source: Tables B-37, B-42 and B-46.

/Figure I-7

FIGURE I - 7

PANAMA : CAPACITY TO IMPORT, QUANTUM AND TERMS OF TRADE IN RELATION TO EXPORTS TO THE CANAL ZONE

SEMI-LOGARITHMIC SCALE




/the terms

the terms of trade for goods and for transit and tourist activities, the index for the Canal Zone shows a clearly rising trend. The improvement - 16.6 per cent between 1945 and 1956 - was due mainly to a marked increase in wages paid in the zone. During the first half of the period this served to reduce the effect of the drastic fall in que quantum, and during the second half it made possible a recovery in the capacity to import of 31.8 per cent, although the quantum rose by only 17.4 per cent during the same period.

In order to clarify the trend of sales of goods and services to the Canal Zone, some explanation must be given of the main categories of the goods and services in question and their determining factors.

The Canal Zone is the home of various civil and military agencies, private companies and individuals that by their monetary expenditures create the demand of the Zone on Panama's economy. They consist principally of the following:

(i) The Panama Canal Company. This is a State concern responsible to the United States Government for the running and maintenance of the Canal, for all the related supporting operations and for commercial activities connected with the civil administration of the Canal Zone, including transport and public utility services. 10/

(ii) The Canal Zone Government. This is an independent agency of the executive branch of the United States Government, responsible for the functions normaly discharged by public administrative authorities, such as health, education, judicial and civil affairs, postal, police and fire-fighting services and roads and sewers. 11/

(iii) The armed forces of the United States in the Canal Zone. The Canal Zone is the permanent station of varying contingents of United States army, naval and air forces responsible for the operation of the military bases in the Zone.

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10/ The status and organization of the Panama Canal Company is explained in: Panama Canal Company and Canal Zone Government: Annual Report, p. 1.

11/ Ibid. p. 101, passim.

(iv) Private companies. A number of private service companies operate in the zone: for instance, branches of banking and insurance companies, a passenger transport company, shipping agencies and oil companies.

(v) Employees of the Canal Company and the Canal Zone Government and military and civil personnel of the United States armed forces. As is to be expected, these persons receive the greater part of their disposable incomes from their employers (those enumerated in the preceding paragraphs), and the remainder (not made up of wages) mainly from the United States and Panama.

The expenditures purchases and payments in Panama of the above agencies, companies and persons constitute essentially the demand originating in the Canal Zone. This demand can be divided into consumer expenditures - purchases of goods and services - and payments made to Panamanian factors of production. The demand for goods and services consist mainly of the following items: (a) expenditures in Panama of persons employed and resident in the Zone and of troops stationed in it (it should be borne in mind that these persons spend a certain proportion of their incomes in the Zone itself, the greater part of it in purchases of consumer goods in the Company's commissaries) and (b) expenditures in Panama by the Canal Zone Company and Government and by the United States armed forces (mainly on purchases of various articles and consumer goods for commissary supplies purchases of building materials and scrap iron, building or supply contracts granted to Panamanian firms after public tender, and payments for services).

The employment of Panamanian productive resources - particularly labour - is an important item in the external demand deriving from the Canal Zone. All the agencies and companies in the Zone make use to a greater or lesser extent of personnel resident in Panama. The 1940 and 1950 population censuses give us the figures. As table I-14 indicates, there were some 28 100 persons working in the Canal Zone in 1940 and 18 000 in 1950. These figures represent, respectively, 13.5 and 7.5 per cent of the country's active population. They give a good idea of the very great importance of the Canal Zone as a source of employment at one time and of the sharp contraction of employment of

/Table I-14

Table I-14

PANAMA: POPULATION EMPLOYED, BY BRANCH OF ECONOMIC ACTIVITY

(Census of 1940 and 1950)

| Branch of activity | 1940 | Percentage of total | 1950 | Percentage of total |
|---|---|---|---|---|
| Total | 207 718 | 100.0 | 241 104 | 100.0 |
| Agriculture, forestry, hunting and fishing | 109 181 | 52.6 | 131 839 | 54.6 |
| Manufacturing industries a/ | 15 085 | 7.3 | 19 557 | 8.1 |
| Construction | 8 154 | 3.9 | 6 657 | 2.8 |
| Trade | 10 425 | 5.0 | 19 855 | 8.2 |
| Transport, storage and communications | 4 442 | 2.1 | 6 700 | 2.8 |
| Services | 30 123 | 14.5 | 37 646 | 15.6 |
| Canal Zone | 28 058 | 13.5 | 18 003 | 7.5 |
| Activities not clearly specified | 2 250 | 1.1 | 847 | 0.4 |

a/ Includes mining and quarrying, electric power, gas and water.

/this kind

this kind when the expansion in Canal Zone activities arising out of the war came to an end. Despite this decline in the relative importance of such employment to almost half in the last census year, however, it still remained in that year a sector almost as important as trade and as the manufacturing industries including electric power, gas and water.

In order to give a more exact idea of the various forms taken by demand from the Canal Zone, the capacity to import generated by the Zone has been divided up as follows: (a) regular wages received by Canal Zone employees resident in Panama, (b) sales of services to Canal Zone agencies, (c) wages received by employees of Panamanian contractors operating in the Zone, (d) sales of goods to Canal Zone agencies, and (e) sales to persons resident in the Canal Zone. The quantum of the first three categories is at the same time the gross product which the Canal Zone contributes to Panama's economy.

Among the above five categories special importance attaches to the first and the last - wages of regular employees and sales to Canal Zone residents. Until 1950 these together constituted more than 80 and even up to nearly 90 per cent of the quantum of exports of goods and services to the Zone. Subsequently the proportion fluctuated around a figure of 80 per cent, and in the last year it declined to 69 per cent, owing to the growing relative importance of sales of goods and services to Canal Zone agencies (see table I-15).

Although these two basic categories show essentially the same trend, they differ in that the contraction of wages was much greater than that of sales to residents. In 1945 the quantum of wages was 47.4 million balboas, but by 1951 it had fallen to 14.4 millions, less than a third. Sales to residents, on the other hand, fell from 44.0 million balboas to 17.8 millions, 40 per cent of the initial figure. Further, whereas in the first case the contraction was continuous, in the case of sales to residents there was a temporary but substantial recovery in 1948 and 1949. The high figure for both series in 1945 was due to the tremendous intensification of Canal Zone activities during the Second World War. However, the last year of the war was not the year of the greatest expansion of these activities (which appear to have occurred in 1942 and 1943) but belonged rather to the period of

/Table I-15

Table I-15

PANAMA: QUANTUM OF SALES TO THE CANAL ZONE AND ITS COMPONENTS

(Thousands of balboas at 1950 prices)

| | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| al | 103 253 | 79 943 | 63 244 | 53 696 | 57 043 | 48 845 | 40 895 | 41 872 | 45 499 | 41 603 | 43 651 | 48 025 |
| ular wages received employees resident Panama | 47 419 | 33 911 | 29 625 | 21 878 | 17 996 | 15 221 | 14 421 | 14 353 | 14 651 | 14 079 | 15 146 | 15 120 |
| es of services to nal Zone agencies | 4 093 | 2 818 | 2 347 | 2 909 | 3 137 | 2 880 | 2 668 | 2 512 | 2 427 | 1 924 | 2 649 | 4 294 |
| es received by employ- s of Panamanian con- actors | 4 044 | 3 576 | 2 971 | 2 278 | 2 079 | 1 853 | 1 875 | 2 112 | 2 616 | 1 225 | 1 026 | 707 |
| es of goods to Canal ne agencies | 3 707 | 3 159 | 2 512 | 3 403 | 4 160 | 4 144 | 4 082 | 4 178 | 4 331 | 3 636 | 4 930 | 8 812 |
| es to Canal Zone sidents | 43 990 | 36 479 | 25 789 | 28 228 | 29 671 | 24 747 | 17 849 | 18 717 | 21 474 | 20 689 | 19 900 | 19 092 |

rce: Table B-42

return to more normal levels, a process which began in 1944.[12]

The expansion of Canal Zone activities began in 1939, when the United States authorities feared that the Canal might become a military target if the United States entered the war. They therefore launched an extensive programme to improve the Canal's defences - which meant an increase in the number of troops quartered in the Zone and, accordingly, the construction of military bases, airports, strategic highways and other installations. In addition in 1940, the construction of a third set of locks for the Canal was begun. This project was carried forward until 1942, when it was modified, to be suspended later. All these activities, and the fact that the resident population of the Canal Zone was rapidly expanding - from 57 000 in 1940 to 126 200 in 1943 [13] brought about an exceptional increase in employment in the Zone and an enormous volume of sales of goods and services to Canal Zone agencies and residents. The increase in the demand for labour was so tremendous and so rapid that Panama was unable to meet it in full, and the Zone authorities were compelled to engage some 22 000 foreign workers, mainly from Colombia, Jamaica, Costa Rica and El Salvador. Furthermore, expenditures effected in Panama by civil and military agencies in the Canal Zone more than tripled between 1939 and 1945, and estimates of expenditures in Panama by Canal Zone residents also indicate enormous increases.[14]

Although the boom in Canal Zone activities was in full decline in 1945, these activities still remained at an exceptionally high level and thus much above the pre-war figures. In the first years after the war accordingly, the various components of the quantum of exports of goods and services - particularly those connected with the employment in the Zone of labour resident in Panama and with sales to the population resident in the zone - showed a sharp decline from the still high levels

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12/ Findley Weaver, Panama's Receipts from the Canal Zone in Relation to her Foreign Trade, Panama, 1946.

13/ U.S. Bureau of the Census, Statistical Abstract of the United States: 1956, Washington, D.C., 1957.

14/ See: Findley Weaver, op. cit., Simeon E. Leland, A Report on the Revenue System of Panama, Panama, 1946, chapter III; and International Monetary Fund, Economic Survey of Panama, February 1952, pp. 11-12.

of 1945. For the same reason, these items of external demand did not subsequently recover. After 1947, the Zone's activities levelled off, and although shipping traffic through the Canal grew fairly rapidly, this had practically no effect on the demand created by the Canal Zone. On the contrary with the introduction into the operation and maintenance of the inter-oceanic route, of all kinds of technical and organizational innovations designed to make the activities connected with the Canal more efficient, economical and automatic, the volume of employment declined. The total number of workers employed in the Canal Zone in 1950 was 26 900 but by 1956 it had fallen to 21 200 (see table III-16.). And the Panama Canal Company employed a total of 21 900 persons at local rates in 1946, but by 1950 the figure had fallen to 14 500, and in 1956 it was under 9 000 (see table III-15).

Since there was also a decline in total wages received by contractors' employees, especially in the more recent years of the period, and the only compensating factor to set against the other three items was the increases in sales to Canal Zone agencies, the recovery in the quantum of exports to the Canal Zone registered during the second half of the period was extremely modest. The increase sales of the later years were due to a change of supply policy on the part of the Canal Zone agencies, itself the result mainly of Panama's insistent request to be given a larger share in the supply of the zone.

4. Internal demand: private consumption, private investment and public expenditure

(a) Composition of internal demand

The trend of internal demand in the post-war period contrasted markedly with the development of the capacity to import, and resulted in a change in the composition of aggregate demand. While external demand contracted, internal demand rose by 54.7 per cent between 1945 and 1956. The curve of internal demand follows a relatively uniform course because the impact of the post-war contraction was not unduly severe. Nevertheless, the great initial growth displayed in the series - from 229.4 million balboas in 1945 to 277.1 million balboas in 1947 - was interrupted in the two subsequent years, with a reduction

/of 9.0

of 9.0 per cent (see table I-16 and figure I-8). The process of recovery began in 1950, and in 1951 the peak internal demand registered in 1947 was resumed. After 1951 this demand grew uninterruptedly and at a fairly intensive rate - 4.8 per cent per year.

Figure I-8 shows the parallel lines followed throughout the period by aggregate internal demand and its most important component, private consumption. Since the latter at all times made up about three quarters of internal demand, its decisive importance in the trend of the latter is obvious. It is particularly interesting to observe the behaviour of internal consumption in the first half of the period: between 1945 and 1951 its share in internal demand grew from 71.6 to 78 per cent, while all the other components of aggregate demand, including (and in particular) external demand, declined in absolute terms. During the final years, on the other hand, when the recovery of the other components of demand was gaining speed, the share of private consumption fell to 75 per cent and there remained practically stable.

Public expenditure and private investment - especially the latter - show the effects of the changes in the capacity to import. Expenditure in the public sector contracted rapidly and consistently during the first five post-war years, its share in internal demand declining from 18.8 per cent in 1945 to 12.4 per cent in 1949. This trend - unlike that of private investment - was sharply interrupted in 1950. In that year Government expenditure rose by about 30 per cent, and after some vacillation in the following year it continued to rise in the following years. The share of public expenditures in internal demand thus recovered to an average of about 14 per cent, and remained at this level during the rest of the period.

Private investment follows a curve which magnifies the fluctuations in the capacity to import, especially if it is regarded as one year, behind external demand.[15/] Its initial level, which was maintained until 1948 was thus very high, and the contraction during the period 1950-51 was likewise exceptionally severe. Between 1951 and 1953 it made a very rapid recovery, and after the latter year it continued to rise,

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15/ See the relevant correlation in chapter II (figure II-1). The

Table I-16

PANAMA: INTERNAL DEMAND AND ITS COMPONENTS

| Year | Total | Private consumption | Private investment | Public expenditure |
|---|---|---|---|---|
| | (Millions of balboas at 1950 prices) | | | |
| 1945 | 229.4 | 164.3 | 22.0 | 43.1 |
| 1946 | 264.5 | 191.8 | 30.5 | 42.3 |
| 1947 | 277.1 | 206.2 | 29.7 | 41.2 |
| 1948 | 253.8 | 188.5 | 31.2 | 34.1 |
| 1949 | 252.1 | 194.4 | 26.6 | 31.2 |
| 1950 | 272.8 | 212.6 | 19.9 | 40.2 |
| 1951 | 280.8 | 221.7 | 21.9 | 37.2 |
| 1952 | 293.1 | 232.4 | 23.9 | 41.8 |
| 1953 | 305.6 | 230.4 | 32.1 | 43.1 |
| 1954 | 321.8 | 242.1 | 33.6 | 46.1 |
| 1955 | 340.0 | 256.8 | 35.9 | 47.3 |
| 1956 | 354.8 | 264.4 | 36.2 | 54.3 |
| | | (Percentages) | | |
| 1945 | 100.0 | 71.6 | 9.6 | 18.8 |
| 1946 | 100.0 | 72.5 | 11.5 | 16.0 |
| 1947 | 100.0 | 74.4 | 10.7 | 14.9 |
| 1948 | 100.0 | 74.3 | 12.3 | 13.4 |
| 1949 | 100.0 | 73.1 | 10.6 | 12.4 |
| 1950 | 100.0 | 77.9 | 7.3 | 14.7 |
| 1951 | 100.0 | 79.0 | 7.8 | 13.2 |
| 1952 | 100.0 | 78.0 | 8.0 | 14.0 |
| 1953 | 100.0 | 75.4 | 10.5 | 14.1 |
| 1954 | 100.0 | 75.2 | 10.4 | 14.3 |
| 1955 | 100.0 | 75.5 | 10.6 | 13.9 |
| 1956 | 100.0 | 74.5 | 10.2 | 15.3 |

Source: Table A-1.

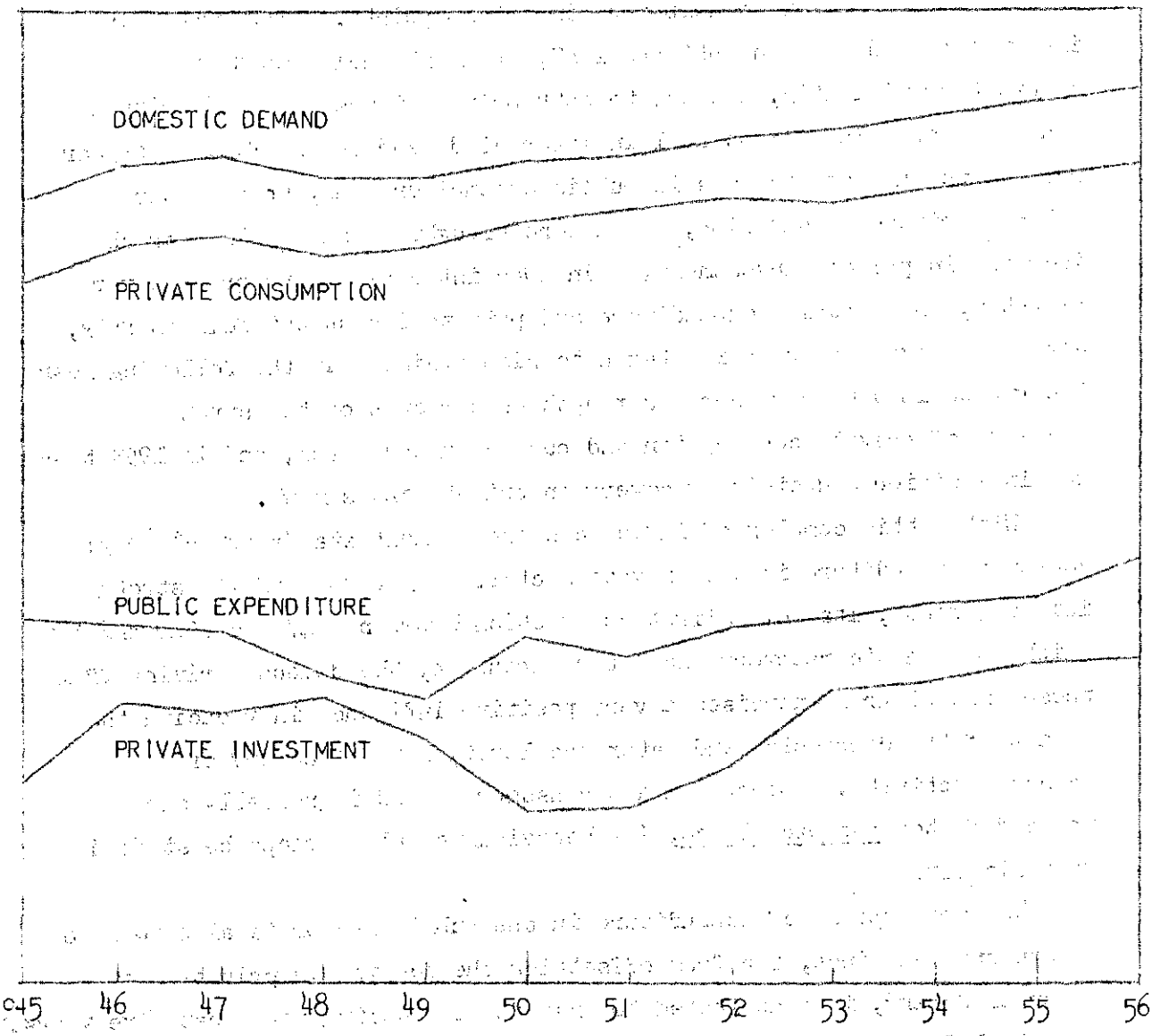
/Figure I-8

FIGURE I - 8

PANAMA : TOTAL DOMESTIC DEMAND, PRIVATE CONSUMPTION, PRIVATE INVESTMENT AND PUBLIC EXPENDITURE

(MILLIONS OF BALBOAS AT 1950 PRICES)

SEMI-LOGARITHMIC SCALE




/though in

though in a more normal manner. As a result of these violent fluctuations, the share of private investment in internal demand also fluctuated to a very marked degree. Between 1945 and 1949 it exceeded 10 per cent in most years, in 1948 - when the other components of demand were already showing the effects of the contraction - reaching a figure of 12.3 per cent. But between 1950 and 1952 its share did not exceed 8 per cent, and for the remainder of the period it recovered a level slightly above 10.0 per cent.

All this suggests a number of important points. The growth in internal demand between 1945 and 1947, when external demand was contracting violently, was due to both private investment and private consumption. The slight fall in internal demand in the following year was due to the contractions in public expenditure and, to a lesser extent, private consumption, which were brought to an end by a fresh increase in private investment. In 1949 internal demand dropped very slightly, while public expenditure and private investment fell sharply, although private consumption began to rise again. In the following year the growth in demand gathered strength as a result of the strong recovery of private consumption and public expenditures, and in 1953 there was in addition a decisive recovery in private investment.

Within this complex of influences one element stands out clearly: consumer expenditure in the private sector. By virtue of its strong initial growth, its only slight contraction between 1947 and 1949 and its quick and dynamic recovery and later expansion, the demand deriving from these expenditures exercised a very positive influence in reducing the impact of the depression and later accelerating the recovery of economic activity. Since private consumer demand is normally the induced factor par excellence, its behaviour should perhaps be studied very closely.

The development of expenditure in the public sector is also to some extent unusual since, far from offsetting the decline in private and external demand, it contributed to that decline during the first five years. Only in 1950, as already mentioned, did it assume its compensatory rôle in relation to effective demand. Private investment, by contrast with the two elements mentioned, reflected fully - and as was to be expected - the trend of external demand.

(b) Private consumer expenditure

Private consumption grew by 60.9 per cent during the period 1945-56 slightly more than total consumption. The annual rate of increase was 4.4 per cent. During the same period the population increased by 33.8 per cent, an annual rate of 2.7 per cent. Per capita private consumption thus grew at an annual rate of 1.6 per cent, making an increase of 19.2 per cent for the period as a whole. Such a trend in private consumer expenditure cannot but be surprising when it is remembered that this is normally an induced component in demand and that the capacity to import and investment behaved very irregularly. It would have been normal to find the curve of private consumption repeating and even magnifying the variations in the development of the other components of aggregate demand, especially the capacity to import. Yet instead of an initial fall from a very high level, the private consumption series shows an increase of 16.7 per cent between 1945 and 1946 and of 7.5 per cent between that year and the following one. The sharp fall registered by the capacity to import, by investment and even by public expenditure during the first half of the period reduces itself in the case of the private consumption series to a fall of only 8.1 per cent between 1947 and 1948. In the following years, during which the contraction in the other components of aggregate demand continues, the private consumption series begins a process of growth which is interrupted only - and very slightly - in 1953.

How is this evolution of private consumption to be explained? For the sake of clarity, two entirely separate phases in it must be distinguished. It should, at the outset, be made clear that what is surprising in the consumption series is only its growth in the initial years. In other words, what is to be explained is how it came about that consumption grew in all the years but one of the first six-year period, instead of reflecting with full intensity the contraction which Panama's economy underwent during those years. The growth in private consumption during the second six years, on the other hand, reflects the general revival of economic activity and is therefore

/not difficult

not difficult to explain. The year marking the turning point between the two phases - 1949 - is a different matter. The renewed activity of private consumption in that year has very interesting and extremely important features.

In order to understand the increase in private consumption between 1945 and 1947 one must bear in mind the market conditions which prevailed during the years immediately preceding. As has been said, during the war years the population of the Canal Zone rose at one stage to almost three times the pre-war number. At the same time, the shipping traffic through the Canal - and the consequent influx of ships' crews and passengers, most of them members of the armed forces - was also several times the normal number. These facts account for the sudden appearance of an enormous additional effective demand on the market for Panama's goods and services. Simultaneously, as happened in all Latin American countries, imports were drastically curtailed owing to the fact that during the war years the entire transport capacity was used for military purposes and for the supply of certain overseas countries. As regards domestic production Panama was - and still is - a country with a low level of economic development and a very inelastic productive system. However great the efforts made, Panama's production could never have developed in so short a period sufficiently to meet the exceptional conditions of demand.

Now, it has already been indicated in an earlier section, that the peak in Canal Zone activities was probably reached in 1942 and 1943, and that by 1945 a contraction was taking place. But the contraction in 1946 and 1947 in demand from the Canal Zone and from transit traffic and tourism was so great that the 1945 level must be considered still very high (see again table I-5). Given this excess of demand over supply and the contraction of the demand originating in the population of the Canal Zone and in the transient military personnel, it is clear that the other component of demand, private consumption in Panama, must have expanded considerably to fill the gap left by external demand. This argument is borne out by the statistical evidence. The existence of an enormous demand deferred during the war years has already been proved, but by way of confirmation it might be useful to observe the

/trend of

trend of prices during this period. There is no price index for the first years of the war, but in table I-17 price statistics for eight basic food products are given, and these clearly reveal the tremendous impact of additional demand between 1939-40 and 1943. The prices of six items almost or more than double those of two others rise by 50 per cent, and even the price of coffee which showed the smallest increase, rose by 25.6 per cent during the three years in question. After 1943 - the peak year of the boom in the Zone - prices went on rising; and it is particularly interesting to note that this trend continued up to 1947 (see table I-18).

The high share of consumer expenditure originating in the Canal Zone in Panama's total consumption may be appreciated from table B-31. The total available supply of consumer goods was 212.7 million balboas in 1945, and with the increase in imports it rose to a little over 230.0 million balboas in the following two years. Simultaneously, the combined expenditures in Panama of foreign visitors and Canal Zone residents fell from 61.4 million balboas in 1945 to 32.0 millions in 1947. Consequently - and even though purchases by Panamanians in the Canal Zone also fell off as a result of the decline in employment in the Zone - private consumption in Panama rose from 164.3 million balboas in 1945 to 206.2 millions in 1947. In other words, a situation of excess demand continued during the first two years after the war despite the violent contraction in the demand created by the Canal Zone which took place upon the return of the latter to normal levels. The persistence during those years of increases in price levels is proof of this.

In earlier paragraphs a detailed description has been given of the basic conditions which permitted an increase in private consumption during the first years after the war. There were, of course, other factors which help to explain the autonomous behaviour of this component during the years in question. Among them, mention may be made of the characteristic inertia of private consumption in adjusting itself to declining levels of disposable per capita income. Various studies have shown that although consumption in the private sector tends to increase with increases in disposable per capita income, this functional relationship proves irreversible when there is a contraction in

Table I-17

PANAMA: PRICES OF SOME CONSUMER PRODUCTS IN PANAMA CITY

(Cents per pound)

| Product | 1939-40 | 1943 | Percentage increase |
|---|---|---|---|
| Boneless ribsteak | 15.0 | 23.5 | 56.7 |
| Chops | 30.0 | 60.0 | 100.0 |
| Live chicken | 30.8 | 60.0 | 94.8 |
| Corvina | 13.3 | 30.0 | 125.6 |
| Domestic rice, all kinds | 5.1 | 9.9 | 94.1 |
| Maize grain | 2.7 | 5.0 | 85.2 |
| Maize flour | 4.1 | 10.1 | 146.3 |
| Bread (micha) a/ | 10.0 | 15.0 | 50.0 |
| Ground coffee, domestic | 30.0 | 37.7 | 25.7 |

Source: Statistical and Census Department, Panama.

a/ Units of 18 ounces.

Table I-18

INDEX OF RETAIL PRICES OF FOODSTUFFS BY GROUPS, PANAMA CITY 1943-1957 a/

(1952 = 100)

| Year | Total index | Meat, fish and shell-fish | Grains and grain products | Fresh fruit and vegetables | Dairy products | Other articles b/ |
|---|---|---|---|---|---|---|
| 1943 | 86.8 | 84.9 | 77.9 | 96.2 | 82.4 | 90.8 |
| 1944 | 89.0 | 87.1 | 78.3 | 101.8 | 83.7 | 91.6 |
| 1945 | 91.4 | 87.3 | 78.4 | 111.6 | 84.5 | 92.2 |
| 1946 | 99.2 | 95.7 | 91.4 | 114.2 | 92.0 | 100.4 |
| 1947 | 109.9 | 98.6 | 100.7 | 123.1 | 113.8 | 121.9 |
| 1948 | 110.3 | 100.7 | 106.0 | 119.6 | 115.5 | 118.5 |
| 1949 | 101.5 | 98.7 | 100.5 | 104.4 | 105.6 | 102.3 |
| 1950 | 95.7 | 94.4 | 91.9 | 97.3 | 99.4 | 98.1 |
| 1951 | 99.3 | 95.4 | 99.0 | 99.8 | 101.1 | 105.0 |
| 1952 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1953 | 98.1 | 101.6 | 99.6 | 91.9 | 98.7 | 96.7 |
| 1954 | 98.1 | 100.8 | 101.3 | 87.3 | 97.6 | 100.8 |
| 1955 | 98.6 | 101.0 | 102.8 | 87.4 | 96.8 | 102.4 |
| 1956 | 98.0 | 99.3 | 101.8 | 88.9 | 96.2 | 101.2 |
| 1957 | 98.4 | 99.4 | 102.6 | 90.0 | 93.4 | 101.9 |

Source: Statistical and Census Department, Panama.

a/ The weights used in calculating the index are based on the consumer expenditures of a group of 276 families with annual incomes of 1 000.00 to 2 999.00 balboas, selected from the survey on the expenditures of 449 families carried out in Panama City in May, 1953.

b/ Including eggs (domestic), fats, sweets, beverages (non-alcoholic) and miscellaneous products.

/such income.

such income.[16/] Very possibly this factor exercised an important influence in Panama during the first post-war years. The preceding years had been marked not only by exceptionally high levels of employment, income and consumption, but also - as a result of the limitations on supply, to which frequent reference has been made - by a considerable accumulation of liquid funds (see table I-19). This latter must explain the fact that during the subsequent years - which were characterized by a contraction of employment and current earnings - consumption levels were maintained, and even rose. Some part of this consumption must have been financed by means of bank loans for consumer purposes, which, again, could be expanded because of the great increase in bank deposits. This phenomenon is essentially the same as that experienced by the United States economy in the first years after the war. At a time when an economic contraction was predicted, there came instead a formidable expansion of consumer demand, owing to the pent-up demand which had accumulated in the preceding years. And the satisfaction of this effective demand was also possible thanks to the corresponding accumulation of funds deriving from the exceptional employment and income levels reached during the war.

Another factor in the increase in private consumption during the first post-war years was the growth and urbanization of the population. In a country in which the rate of natural increase of the population is about 3.0 per cent annually and in which the rate of increase of the urban population between 1940 and 1950 was 3.3 per cent per year, the need by some means to meet the basic needs of this additional population is a dynamic factor in private consumption. This is the essential cause underlying the long-term increase in consumption; but the same factor is also likely to have a moderating effect on short-term contractions in consumption, especially where the process of urbanization is as intensive as it was in Panama in the 1940's.

Lastly, it is very possible that the marked increases in consumption recorded in 1946 and 1947 to a certain extent reflect increases in goods

16/ James S. Duesenberry, Income, Employment and Public Policy, chapter III (Norton), 1948; and Income, Saving and the Theory of Consumer Behaviour (Harvard University Press), 1949.

Table I-19

PANAMA: BANK DEPOSITS AND LOANS

(Millions of balboas)

| Year | Loans | Deposits |
|---|---|---|
| 1939 | 9.3 | 13.1 |
| 1940 | 10.6 | 28.5 |
| 1041 | 11.1 | 24.5 |
| 1942 | 8.7 | 42.0 |
| 1943 | 7.4 | 65.5 |
| 1944 | 8.9 | 78.1 |
| 1945 | 11.9 | 82.2 |
| 1946 | 18.2 | 75.4 |
| 1947 | 23.4 | 68.9 |
| 1948 | 26.3 | 72.1 |
| 1949 | 26.5 | 69.4 |
| 1950 | 26.7 | 64.6 |
| 1951 | 27.5 | 75.7 |
| 1952 | 28.2 | 78.0 |
| 1953 | 29.9 | 80.9 |
| 1954 | 35.6 | 82.6 |
| 1955 | 42.7 | 82.1 |
| 1956 | 49.7 | 88.2 |
| 1957 | 63.5 | 90.9 |

Source: Statistical and Census Department, Nuestro Progreso en Cifras, Panama, 1958 p. 51.

/inventories. Since

inventories. Since the levels of inventories in the war years were probably very low, owing to the limitations on supply and the pressures of demand, the first post-war years were in all probability characterized by a return to more normal inventory levels. Furthermore, since the levels of demand during these years were exceptional, it is possible that inventories reached not merely normal levels but levels sufficient to meet the effective demand of the years of over-employment. As this demand began contracting rapidly, inventories must have been excessive. The foregoing hypothesis is borne out by the marked increase which took place in imports, the quantum of which rose by 37.1 per cent between 1945 and 1947 (see table B-23).

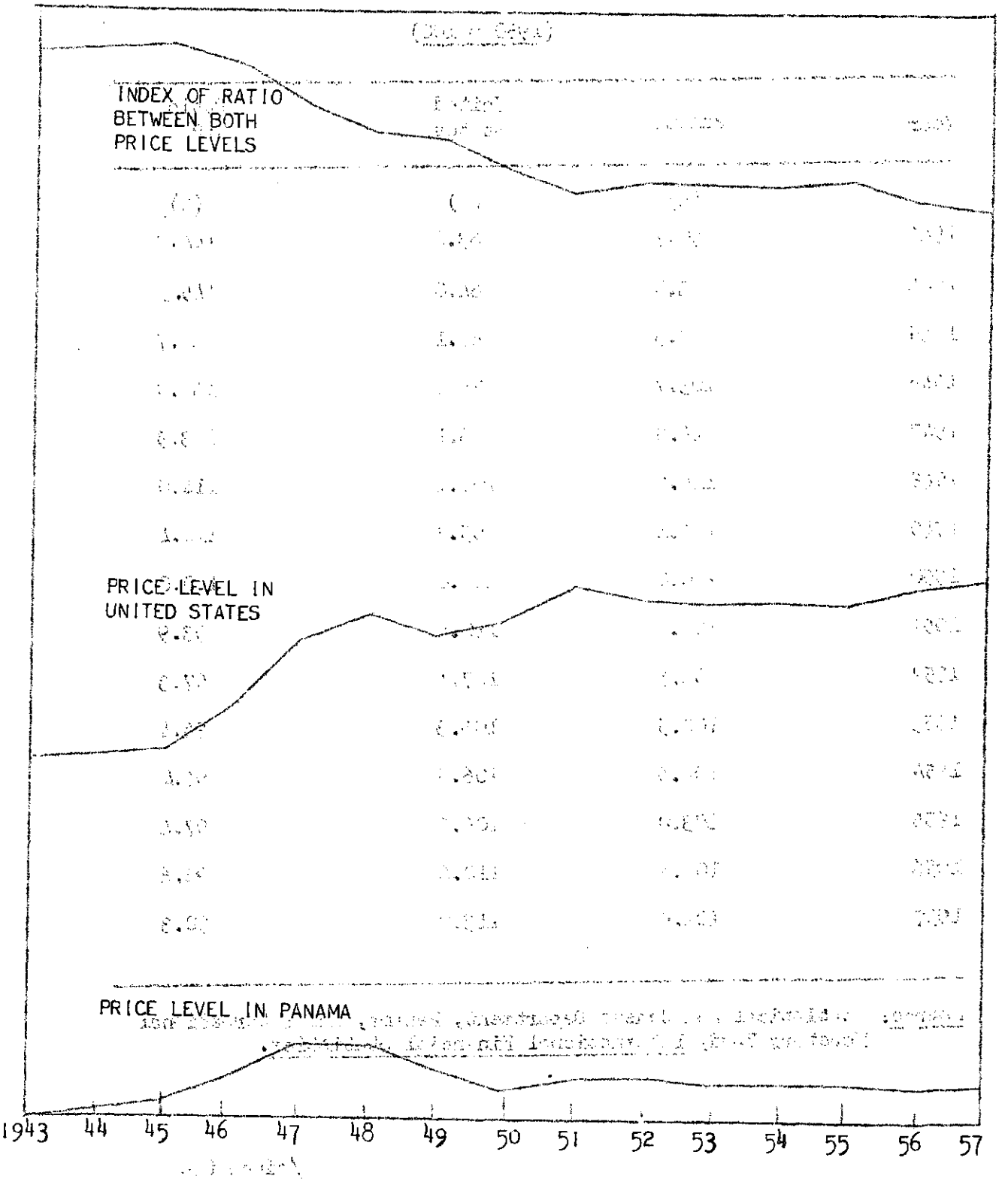
The resumption of the growth of private consumption in 1949 is also rather complicate to explain, being due to various factors which it will be useful to emphasize. In the first place, the capacity to import registered a recovery in that year - the only one in the period 1945-51. In 1949, the contraction in sales of goods and services to the Canal Zone came to a stop, and registered exports of goods made a considerable recovery. The increases observed were due in both cases to the fact that that year saw a very marked improvement in Panama's terms of trade. It is interesting to note, however, that the role of relative prices in this recovery was of much greater importance. If price trends in the United States and in Panama during the period 1943-57 are compared, it will be seen that during the first years of the period the general price levels of the two countries behaved similarly, but that from 1947 onwards important differences appeared. (See figure I-9). United States prices continued to rise in 1948, and after a brief interruption in the following year reached a maximum in 1951. The price level in Panama, on the other hand, reached its maximum in the years 1947-48 - precisely when the growth in internal demand was interrupted - and thereafter declined and remained constant at a level no higher than 90 per cent of the maximum. Consequently, the index of the ratio between the two shows a sharp fall between the first post-war years and the first years of the 1950's. Between 1945 and 1951, in fact, the decline in the external purchasing power of the balboa in terms of the dollar was more than one-third (see table I-20).

/Figure I-9

FIGURE I - 9

PANAMA AND UNITED STATES : RATIO BETWEEN PRICE INDICES

SEMI-LOGARITHMIC SCALE




/Table I-20

Table I-20

PANAMA AND UNITED STATES: PRICE INDICES AND THE RATIO BETWEEN THEM

(1950 = 100)

| Year | Panama | United States | Ratio A:B |
|---|---|---|---|
| | (A) | (B) | (C) |
| 1943 | 90.7 | 63.0 | 144.0 |
| 1944 | 93.0 | 64.0 | 145.3 |
| 1945 | 95.5 | 65.1 | 146.7 |
| 1946 | 103.7 | 74.1 | 139.9 |
| 1947 | 114.8 | 93.1 | 123.3 |
| 1948 | 115.3 | 101.1 | 114.0 |
| 1949 | 106.1 | 95.2 | 111.4 |
| 1950 | 100.0 | 100.0 | 100.0 |
| 1951 | 103.8 | 110.6 | 93.9 |
| 1952 | 104.5 | 107.4 | 97.3 |
| 1953 | 102.5 | 106.3 | 96.4 |
| 1954 | 102.5 | 106.3 | 96.4 |
| 1955 | 103.0 | 106.3 | 97.4 |
| 1956 | 102.4 | 110.6 | 92.6 |
| 1957 | 102.8 | 113.8 | 90.3 |

Source: Statistical and Census Department, Panama, and International Monetary Fund, International Financial Statistics.

/since the

Since the nominal parity between the two currencies remained unchanged, this change in relative prices was equivalent to a devaluation of the balboa. And as was to have been expected, there occurred some of the consequences usually resulting from a measure of this kind, in particular, a relative increase in the prices of imported products. This acted as a stimulus to domestic economic activity, both as regards the production of goods for export and as regards the substitution of imports by domestic goods. Analysis of the import substitution process indicates that it was precisely during the first half of the post-war period that most of this substitution took place.[17] Furthermore, as has been pointed out, it was in those years too that traditional exports increased in volume and that a series of new export products - some of them manufactured goods - made their appearance and came to form a significant proportion of the quantum of this sector of Panama's exports. This phenomenon was of particular importance because it coincided with the contraction of effective demand and so helped to counteract the negative effects of the latter.

In the second place, 1950 saw a marked reaction in Government expenditure. As will be seen below, both current expenditure and public investment increased substantially, thus helping to bring about a fresh rise in the level of employment and consequently in the level of incomes and private consumption. Moreover, the years in question saw a considerable decline in the intensity of the negative factors, since the greater part of the contraction of external demand had already occurred in the first years of the period.

In the following years, private consumption finally resumed its rôle as an induced element, and began to develop in response to the increase in the other components of aggregate demand.

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17/ See chapter IV, section II.3.

(c) Private investment

As has been indicated, during the period 1945-56 private investment fluctuated violently, faithfully reflecting - although with some time-lag - the variations in external demand. While the latter declined consistently in the years after the war, private investment remained at a very high level up to 1948, and registered a fall only between that year and 1950. Between 1945 and 1946, private investment rose from 22.0 to 30.5 million balboas, an increase of about 40 per cent after which the figure was maintained at this extremely high level for three years (see table 1-21).

Since private investment is the element most sensitive to variations in demand, it is naturally surprising that while the latter was contracting private investment should have grown and that it remained high during a critical three-year period. It should be borne in mind, however, that although the war period was characterized by a shortage of consumer goods, there was a much greater shortage of capital goods and building materials. This latter was due not only to the limited sea transport capacity but also to reduced world supply. Moreover, there was virtually no domestic supply of this type of goods. At the same time, the intensification of demand to which reference has been made and the great expansion of the population in Panama's two main cities increased investment needs. Not only was there an accumulated demand for houses, commercial installations and other types of building to be met, but the renewal and expansion of the country's capital equipment became imperative. In addition, the great external demand which developed during the war years, and continued during the years immediately following owing to the expansion of private consumption, roused expectations of profit in national entrepreneurs which induced them to intensify their investments. If to this is added the stimulus deriving from the change in the relative prices of imports, to which reference was made earlier, and the need to restore more normal inventory levels, the high level of capital formation of the years 1946-48 will be readily understood.

/Table I-21

Table I-21

PANAMA: PRIVATE INVESTMENT, TOTAL, AND PRINCIPAL COMPONENTS

(Millions of balboas at 1950 prices)

| Year | Total | Construction | Imported capital goods | Changes in plantations and livestock inventories |
|---|---|---|---|---|
| 1945 | 22.2 | 10.0 | 11.2 | 1.0 |
| 1946 | 30.5 | 10.7 | 18.7 | 1.1 |
| 1947 | 29.6 | 15.2 | 12.9 | 1.5 |
| 1948 | 31.2 | 14.8 | 16.2 | 0.2 |
| 1949 | 26.6 | 14.0 | 13.3 | -0.7 |
| 1950 | 19.9 | 10.2 | 9.9 | -0.2 |
| 1951 | 21.9 | 11.8 | 10.4 | -0.3 |
| 1952 | 23.9 | 12.1 | 13.1 | -1.3 |
| 1953 | 32.1 | 15.1 | 14.4 | 2.6 |
| 1954 | 33.6 | 17.6 | 15.6 | 0.4 |
| 1955 | 35.9 | 18.7 | 17.2 | - |
| 1956 | 36.2 | 14.4 | 21.9 | -0.1 |

Source: Tables B-32, B-33 and B-27.

/The increase

The increase in private investment is clearly reflected in the various categories of capital goods imported. Purchases of agricultural equipment more than tripled; purchases of transport and communications equipment rose by 41.1 per cent, and imports of industrial equipment increased by a similar figure, while imports of unspecified capital goods rose from 6.4 to 10.1 million balboas (see table B-34). Imports of construction materials rose by about one-third between 1945 and 1947 (see table B-23); and the increases during the first three post war years in livestock inventories and banana plantations also contributed to the high level of gross investment in the years in question (see table B-35). As with private consumption, the financing of the exceptional level of investment in the first post-war years was possible through the use of the funds accumulated during the preceding boom period.

When the special circumstances referred to ceased to operate, investment fell sharply. Aggregate demand, as will be remembered, has reached its trough in 1948, the very year in which gross investment - by contrast - reached its peak. Once pent-up investment needs had been satisfied, and when the contraction in demand reduced the profit expectations of investors, the factors which had caused this exceptional level of investment disappeared. The extraordinarily favourable conditions having thus been replaced by highly unfavourable ones, gross investment fell in a mere two years from 31.2 to 19.9 million balboas, a drop of 36.2 per cent.

The recovery in private capital expenditure from 1951 is not hard to explain. Domestic demand had already begun to grow the year before and the increase in public expenditure had acquired particular importance. In 1951, too, the capacity to import began to recover. Consequently, that year marks the beginning of the phase of recovery of Panama's economy, and under the stimuli of this private investment also began to revive. In 1951, there was in fact a slight recovery in this component of aggregate demand, and in the two following years this recovery became much more marked. As a result, private investment in 1953 reached an absolute level comparable with that registered in the first years after



/the war.

the war. From that date, which probably marked the return of Panama's economy to a more normal level of activity,[18] private investment began to grow more regularly and at a rate slightly above 4 per cent per year.

Attention should be drawn, finally, to the composition of private investment in Panama. Table I-21, already referred to, reveals the great importance, within the totals of investment for construction purposes. In most of the post-war years, the share of this component in gross investment in the private sector exceeded 50 per cent; only in the first years and in the last year of the period did it fall well below this figure. In the first years, as has been indicated, this was due to the very great increase which took place in imports of capital goods, which had been very small in the preceding years, and to the considerable size of the increases in plantations and in livestock inventories. In 1956, the fall in the share of construction to 40 per cent was due primarily to extensive imports of capital goods for agriculture and industry. The large share of private investment accounted for by construction has probably been an additional factor in the instability of the former, since construction, as is well known, is generally speaking a highly variable activity.

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18/ This "normal" level of economic activity is that which Panama is able to attain in normal conditions of external demand, and inevitably implies a considerable disemployment of labour (see section III.3.c of this chapter.

(d) Expenditure in the public sector

(i) The trend of public expenditure

In the three years 1945-47, combined consumption and investment expenditure in the public sector reached an annual average of 42.2 million balboas. Although the high figures of these first years showed a slightly declining trend, the crisis in the capacity to import did not affect public expenditure until 1947-49. In these two years Government expenditure fell to 31.2 million balboas, a drop of more than one-quarter from the average for the initial three years (see again table I-16). It will be recalled that both private consumer expenditure and private investment showed a similar time-lag between the contraction of external demand and its impact on these internal components of demand. In all these cases the explanation is the same: the accumulation of reserves during the war years. Between 1941 and 1944 the public sector registered successive surpluses, that of 1943 being particularly large.[19/]

In those years, moreover, Panama's fiscal system relied more than is the case at present on revenue from customs duties and consular fees levied on imports of goods. In 1946 and 1947 these two items made up about 40 per cent of the Government's total current revenue. As will be seen below, the quantum of imports grew considerably during the first post-war years, and the current value of imports still more, the increase between 1945 and 1947 being 37.2 per cent in the first case and 62.9 per cent in the second. The yield from import duties also increased greatly thus providing financing for a high level of public expenditure.

In the following years, however, when the monetary reserves had been exhausted and internal and external demand were in full recession, imports also declined. As a result, an appreciable contraction took place in current Government revenue, which had not until then suffered the effects of the country's general economic crisis; and despite an increase in the public debt in 1948 Government consumer expenditure and, more particularly, investment declined in that and the following year. In all this process there are two points which should be emphasized in that they relate to the general situation of effective demand. In view of the suddenness with

19/ Simeon E. Leland, A Report on the Revenue System of Panama, Panama, 1946, table 1.

which external demand contracted in the first post-war years, it would have been reasonable to expect an even more marked reaction on the part of internal demand. For the various reasons given - the accumulation of funds and monetary reserves, pent-up consumer and investment needs, the persistence of excess demand, a favourable change in relative external prices, and so on - this did not occur. Instead, all these factors reduced the impact of the external crisis on internal demand; and the trend of Government expenditure also appears to have operated in the same direction.

Nevertheless, public spending policy did not become a clear and definite factor for expansion until 1950. In that year, total public expenditure, for current needs and, more particularly, for investment, rose by 29.1 per cent in relation to the previous year. As Panama's general economic situation still showed no sign of recovery - indeed, the economy was in the critical phase of depression - Government income from taxation remained at a low level. The increase in public expenditure was therefore financed by a further enlargement of the public debt. In 1950 the Government of Panama floated various loans which produced 5.0 million balboas, representing extraordinary net revenue amounting to about 16 per cent of the current fiscal revenue. 20/

In 1951 the Government was unable to maintain the level of public expenditure reached in 1950, despite a new - although more modest - increase in the public debt. From 1952 onwards, when the gross product entered a phase of decisive recovery and much the same happened with imports, current Government revenue also showed a marked rise. As a result of this and of the increase in the public debt - which had now become a normal forms of Government financing - Government expenditure increased very considerably. The trend continued in the following years, mainly as a result of an important income tax reform which made the tax more progressive and broadened its base. Revenue from this source, which before 1953 had amounted to about 11 per cent of total current revenue, thus rose to about 20 per cent of the total. 21/ In 1956, finally, Government expenditure again registered

20/ International Bank for Reconstruction and Development, Public Finance of Panama (Romeo Dalla Chiesa), Washington, 1957, table A.11.

21/ Op. cit., pp.37 and 41 and table A.12.

/a very

a very marked increase. As in 1950, the increase was particularly striking in investment expenditure; and, again as in 1950, the increased expenditure was financed mainly by a considerable enlargement of the public debt.

As the foregoing shows, the development of public expenditure during the post-war period was determined by a stationary trend in current tax revenue and by the extraordinary receipts derived from the great enlargement of the public debt, particularly the internal debt. Whereas the external debt fell by more than 20 per cent, the total debt increased from 17.3 million balboas in 1945 to 53.2 million balboas in 1956 (in current values). The share of the internal debt, meanwhile, rose from barely 7.6 per cent in the first year to more than 75 per cent in the last. 22/ This remarkable increase in the total public debt, and especially of the internal debt, clearly reflects Panama's difficult fiscal situation during the greater part of the period 1945-56. The low yield from the taxation system, and the obligations which the Government was compelled to go on accumulating, caused a permanent deficit in current revenue and expenditure, thereby necessitating the great expansion of the internal debt to which reference has been made.

As with most under-developed countries, Panama's fiscal system is doubly inelastic. On the one hand, the taxation system is based largely on indirect taxes, in particular taxes on imports of goods. The limited growth in imports and the depression in internal economic activity thus resulted in a prolonged stagnation in tax revenue. On the other hand, a modern State cannot evade the responsibilities assigned to it by the community, and must meet the need for houses, schools, hospitals, highways and other services and basic social capital. And in the crisis conditions prevailing in Panama between 1948 and 1952, the Government was obliged in addition to take action to alleviate the unemployment situation.

It is not surprising, then, that despite the rigidity of the tax revenue the public sector had to increase its expenditures greatly from 1950. In order to do so, it had to resort to the internal public debt, which had scarcely been used before 1945. There was no alternative, since

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22/ See: Statistical and Census Department, Nuestro progreso en cifras, Panama, 1958, table 19, p. 49.

for institutional reasons a compensatory spending policy with deficit financing is impossible in Panama. As is known, Panama has no monetary system of its own, and consequently no issuing power. It could not therefore resort to the simple process of contracting debts with the monetary authority, as is customary in countries which try to make up for a deficient effective demand in order to give employment to idle resources.

(ii) The nature of the fiscal system

The Government's spending policy must be examined in the light of these very special institutional conditions. Under the existing monetary system, fiscal deficits can only mean a transfer of liquid funds from the private to the public sector of the economy. Thus, the great expansion of the internal public debt does not necessarily mean that the increase in fiscal expenditure will automatically bring about an increase in total expenditure and a corresponding revival of economic activity - which would have been the case if the loans in question had put into circulation a purchasing power which would otherwise have remained outside the monetary flow. Moreover, the use of the balboa, which is equivalent to the United States dollar, as the monetary unit also means that there is nothing to prevent the conversion of internal into external purchasing power. Consequently, a great increase in public expenditure, and so in personal incomes, can very well flow abroad in its entirety, without providing any stimulus to internal economic activity and resulting only in a great drain on monetary reserves. In both cases, an expansion of fiscal expenditure could only mean a contraction in private spending and a situation of financial stringency.

In these circumstances, what must have been the net effect of the Government's expansionist policy? In the first post-war years the problem clearly did not arise, because the Government's deficits were financed from funds accumulated during the war, and by liquidating certain monetary reserves which had been deposited abroad and expanding the internal public debt, still at that time of negligible size. In the first two cases what took place was in fact a putting-to-use of idle funds, while in the case of the debt also - given its low previous level and the general accumulation of monetary resources during the years in question - funds of this type were undoubtedly absorbed.

After 1950, however, this clear situation of an accumulation of idle liquid funds no longer existed, and the great increase in the internal public debt could have reduced the private sector's spending capacity. But, although direct statistical proof is impossible, there is no indication that this happened. Of course, as has been said, the great increases in public expenditures in 1950 and subsequent years were in every case followed by sizable increases in the other components of internal demand - private consumption and private investment. So much was this so that the share of public expenditure in gross income, which had reached a level of about 16 per cent between 1950 and 1952, fell to less than 14 per cent in the later years. Moreover, the available banking and monetary statistics indicate a high degree of liquidity of the financial system, although it should be noted that this liquidity has been declining in recent years. This has been particularly true of the net reserves of funds maintained abroad by the national banking system. 23/ Up to now, nevertheless, the great increase in the internal debt has not restricted the possibilities of private investment and consumer spending; rather, it has tended to absorb the large quantity of liquid funds lying idle in Panama.

The foregoing hypothesis appears to be borne out by the composition of the internal public debt. This amounted in 1956 to 40.6 million balboas, whereas in 1945 it barely exceeded one million. The increase was thus practically the total amount of the present debt. If the entire sum had been placed in the private sector of Panama's economy, the increase in public expenditure would undoubtedly have taken place at the expense of private expenditure. This did not occur because a large proportion of the debt was placed in such a way as to permit the use of idle financial resources or the contracting of debts which were in fact not internal but external. An amount of about 10 million balboas of the current debt - a fourth of the total - takes the form of bonds placed with autonomous State agencies - in particular, the social security system. This in fact implies the use of some reserve funds of these agencies which would probably otherwise have remained idle. About 6.0 million balboas are owed to the great

23/ Republic of Panama, Informe del Contralor General de la República (fiscal period 1 January-31 December 1957), October 1958, Panama, pp. xx-xxiii.

/banana company;

banana company; and although this loan is classified under the internal debt it is clear that it does not cause any drain on the financial resources of the internal private sector. Finally, a sum of 3.6 million balboas comes under the floating debt (outstanding Government bills). Since private banks accept these bills as security for short-term loans, the floating debt, again, cannot become a form of forced saving on the part of the States suppliers. 24/

A last observation also goes to confirm the existence of a financial market which was still not saturated in the last years of the period. Before 1954 the proportion of the internal debt placed in autonomous State agencies was considerably higher than the figure of 25 per cent mentioned above. This was because from 1954 on the Government made special efforts to place new loans among large and small private investors. In recent years, furthermore, certain State bonds have in increasing proportion been negotiated privately - quotations at or even above par being frequent - and State bills have begun to be accepted under various conditions as security for bank loans and in payment of insurance premiums.

As regards the possibility that the effect of the expansion of the public debt might have been nullified by an increase in imports - the second problem mentioned earlier - this, again, does not appear to have happened. As will be seen below, imports of consumer and capital goods developed in direct relation to internal consumption and investment, while imports of raw materials and fuels developed in relation to the gross product. Moreover, it was precisely during this period that there occurred a reorientation of production towards the internal market, a process in which the protectionist efforts of the Government and the relative increase in the prices of imported articles must have played some part.

The above observations appear to bear out the statement made earlier that public expenditure, particularly after 1950, contributed considerably to the recovery and then expansion of economic activity. Despite the institutional limitations confronting the Government, the latter was able appreciably to expand total expenditure - and consequently aggregate demand -

24/ Republic of Panama, Informe del Contralor General de la República, 1956; Panama, October 1957, p. xxii.

by restoring to the economic flow the idle monetary resources accumulated by the private sector and by the autonomous agencies of the public sector itself. Such a policy on the part of the State was clearly possible during a period of crisis in which the accumulation of liquid funds must have been excepcional. It could be maintained afterwards, when a more normal level of activity had been restored, by virtue of the high degree of liquidity characterizing an economy like Panama's in which the opportunities for investment by the private sector are relatively scarce.[25] Although no definite date can be specified on the basis of the information available, it is clear that this method of financing could not continue beyond a certain point. There inevitably had to come a time when the absorption of private funds by the State would begin to operate as a limitation on private investment. Also, the tremendous expansion of the internal debt is - from the Government's point of view - a very costly means of increasing resources. The service and amortization of the debt then themselves become an important component in Government expenditure, and may even reduce the net benefit gained from the successive increases in the public debt.

(iii) Consumption and investment expenditure by the public sector

The characteristics of the fiscal financing system which prevailed in Panama during the post-war period affected public investment more than current public expenditure. Since the latter is more inelastic - for in conditions of general under-employment and unemployment the State is an important source of employment - the variability of the Government's revenue had direct repercussions on public investment (see table I-22 and figure I-10). While expenditure for consumption varied between a maximum of 41.3 million balboas in 1956 and a minimum of 27.0 million balboas in 1949, investment in the latter year touched a minimum of 4.1 million balboas, whereas in the first and last years of the series the figure registered was more than three times that amount. In 1950 and 1956, for instance, when the lartest increases in the public debt took place, State investment reached figures 200 per cent and 50 per cent greater, respectively, than in the previous year.

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25/ See chapter II, section III.2.

Table I-22

PANAMA: CONSUMPTION AND INVESTMENT EXPENDITURE BY THE PUBLIC SECTOR

(Millions of balboas at 1950 prices)

| Year | Total | Consumption | Percentage of total | Investment | Percentage of total |
|---|---|---|---|---|---|
| 1945 | 43.1 | 28.6 | 66.4 | 14.5 | 33.6 |
| 1946 | 42.3 | 30.8 | 72.8 | 11.5 | 27.2 |
| 1947 | 41.2 | 29.6 | 71.8 | 11.7 | 28.4 |
| 1948 | 34.1 | 28.1 | 82.4 | 6.0 | 17.6 |
| 1949 | 31.1 | 27.0 | 86.8 | 4.1 | 13.2 |
| 1950 | 40.2 | 31.6 | 78.6 | 8.6 | 21.4 |
| 1951 | 37.2 | 31.3 | 84.1 | 5.9 | 15.9 |
| 1952 | 41.8 | 34.1 | 81.6 | 7.7 | 18.4 |
| 1953 | 43.1 | 35.6 | 82.6 | 7.5 | 17.4 |
| 1954 | 46.1 | 39.8 | 86.3 | 6.3 | 13.7 |
| 1955 | 47.3 | 38.4 | 81.2 | 8.9 | 18.8 |
| 1956 | 54.3 | 41.3 | 76.1 | 13.0 | 23.9 |

Source: See table B-27.

An instability of this magnitude in the public sector's capital formation expenditure clearly indicates the lack of continuity in the Government's investment programmes and the secondary priority which has had to be assigned to them. The indirect result of this has been that public investment has tended to decline in importance in relation to total public expenditure and to capital formation in the private sector. Table I-23 indicates that in both cases the proportion falls from almost 28 per cent at the beginning of the period to 16.3 and 17.9 per cent, respectively, in the final years. The years 1945, 1950 and 1956 were eliminated from the comparison because in those years public investment was

FIGURE I-10

PANAMA : TOTAL PUBLIC EXPENDITURE - CONSUMPTION AND INVESTMENT

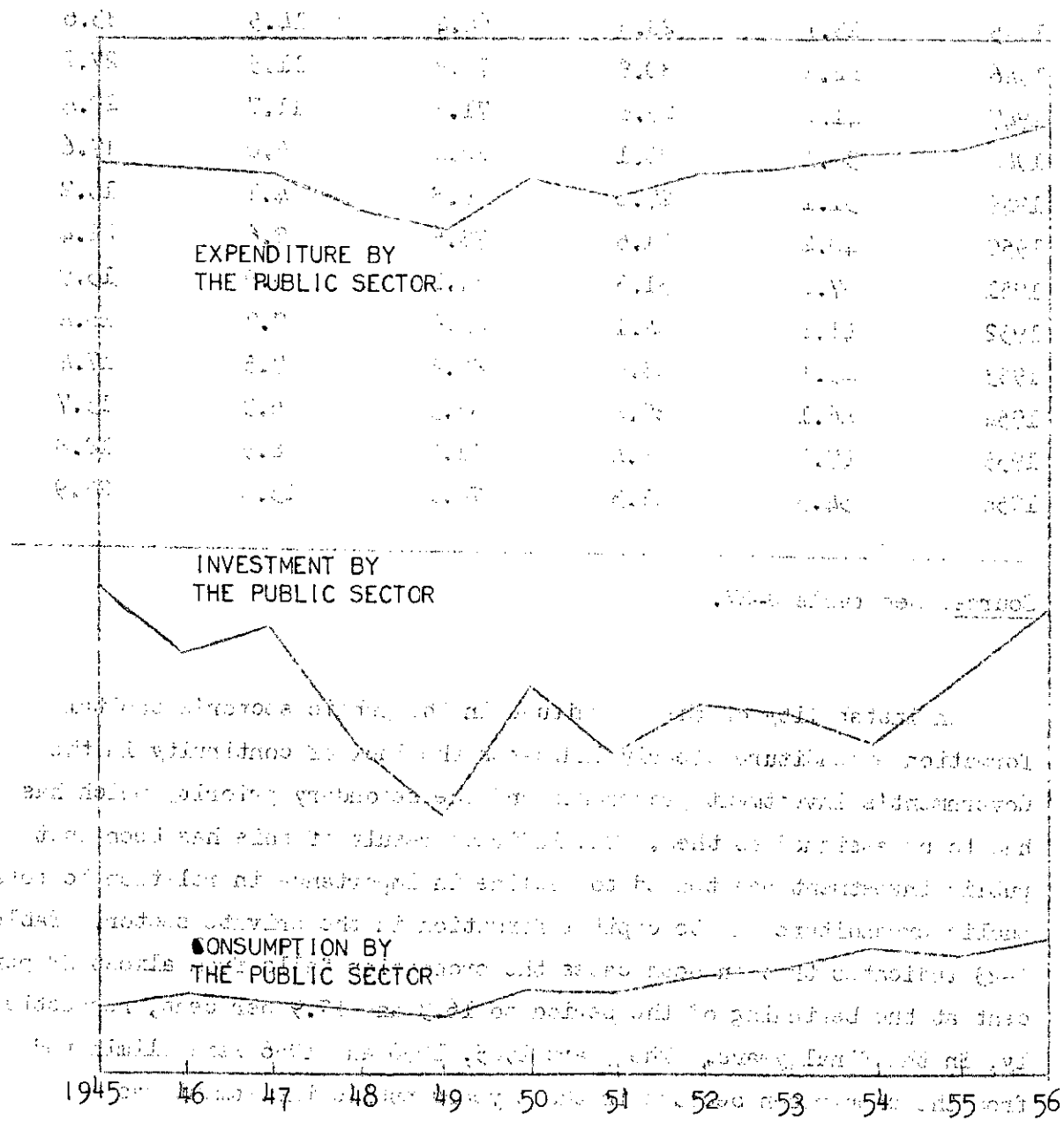


Table I-23

PANAMA: PUBLIC INVESTMENT IN RELATION TO PUBLIC EXPENDITURE AND GROSS INVESTMENT

(Percentages)

| Annual average | Public investment as a percentage of | |
|---|---|---|
| | Public expenditure | Gross investment |
| 1946-47 | 27.8 | 27.9 |
| 1951-52 | 17.2 | 22.8 |
| 1954-55 | 16.3 | 17.9 |

Source: Tables B-32 and B-27.

exceptionally large. In view of Panama's lack of basic social capital, these trends are undoubtedly very unfavourable for its future economic development.

Attention should be drawn, finally, to the composition of the Government's consumption and investment expenditures. As regards consumption expenditure, a distinction has been made between remunerations paid and purchases made by the public sector. The relatively high proportion accounted for by purchases is particularly noteworthy; these include purchases in the Canal Zone of drinking water for Panama City and Colón, imports and purchases of medicinal products and medical goods for the Social Security Service and travelling expenses paid to Government officials, and in some years, make up more than one-third of the total. The figures for purchases show two different levels. The first, at about 9.0 million balboas, remained constant between 1945 and 1951. The second level began in 1952 and was maintained at about 12.0 million

balboas until the end of the period. The increase between the first and last years in the period is about 33 per cent, and the series is remarkable for the complete absence of the strong annual fluctuations apparent in total public expenditure. The Government payroll increased by more than 50.0 per cent over the period as a whole. In the first years, again, relative stability was experienced, but in 1950 an increase began which raised the payroll from about 19.0 million balboas in 1945-49 to more than 28.0 million balboas in 1956.

Public investment may be classified as follows: (a) docks and highways, (b) buildings and other works, and (c) machinery and equipment. The three series are very variable, in general following the fluctuations in total public investment. Although their instability makes it difficult to detect the trends very clearly, there are at least two which should be mentioned. Whereas investment in machinery and equipment - which is of less importance relatively - shows a more or less stationary trend, expenditure on buildings and other public works declined markedly between the first and final years of the period. Consequently, investment in highways and docks recovered during the later years and even, in 1956, exceeded the levels reached in the first years after the war. Nevertheless, as has been indicated, the level of public investment reached in Panama during the twelve post-war years was relatively low: average annual Government investment over the period was barely 8.8 million balboas, i.e. no more than 11 balboas per person per year.

Lastly, it should be mentioned that public investment expenditure was distributed over the period as follows: 38.3 per cent for docks and highways, 53 per cent for buildings and other works, and 8.7 per cent for machinery and equipment. The annual averages corresponding to these percentages are 3.7 million, 4.2 million and 0.9 million balboas respectively. It is clear at once that investment in highways and in machinery and equipment is extremely low in comparison with investment in buildings. This deficiency is the more glaring in that lack of communications undoubtedly constitutes the main obstable to an increase in production, especially in agriculture.

## III. AGGREGATE SUPPLY

### 1. General trends

The evolution of aggregate supply since the war has been similar to that of aggregate demand (see figure I-11). The slight differences between the two series are due to statistical discrepancies - which in no year amounted to as much as 4.0 per cent of aggregate demand - and to the terms-of-trade effect. This latter factor, although of still less relative importance, nevertheless reveals a definite trend. The negative values which prevail in most of the initial years of the series are gradually reduced and finally become positive figures, which grow rapidly from 1953 onwards (see table I-24). Hence, aggregate supply increases during the period 1945-56 at a slightly lower rate than aggregate demand. While the latter, it will be remembered, increased by 23.8 per cent, the rise in aggregate supply was 22.9 per cent.

The marked similarity in the growth of aggregate supply and aggregate demand between the extremes of the series is also apparent if the year-by-year curves are compared. Only in 1947 is there a significant difference: while aggregate demand began to contract, aggregate supply maintained the same level as the previous year's. The explanation of this phenomenon lies in the contradictory trends followed by the capacity to import and imports during that year: while the former contracted sharply, imports remained at the high level reached in 1946.

### 2. Internal and external supply

The components of aggregate supply, like those of aggregate demand, may be broken down into two large groups: supplies of domestic goods and services, and supplies originating abroad. The first component is represented in this case by the gross product; the second relates to imports of goods and services. Since the war, both have followed a very similar trend, although the imports curve shows a greater tendency towards short-term fluctuations than the gross product curve (see figure I-12).

In spite of this similarity, there is a slight variation in the relative size of the two components between the early years and the second half of the period. Although the share of the gross product in aggregate

/Figure I-11

FIGURE I - 11

PANAMA : AGGREGATE SUPPLY AND AGGREGATE DEMAND

(MILLIONS OF BALBOAS AT 1950 PRICES)

SEMI-LOGARITHMIC SCALE

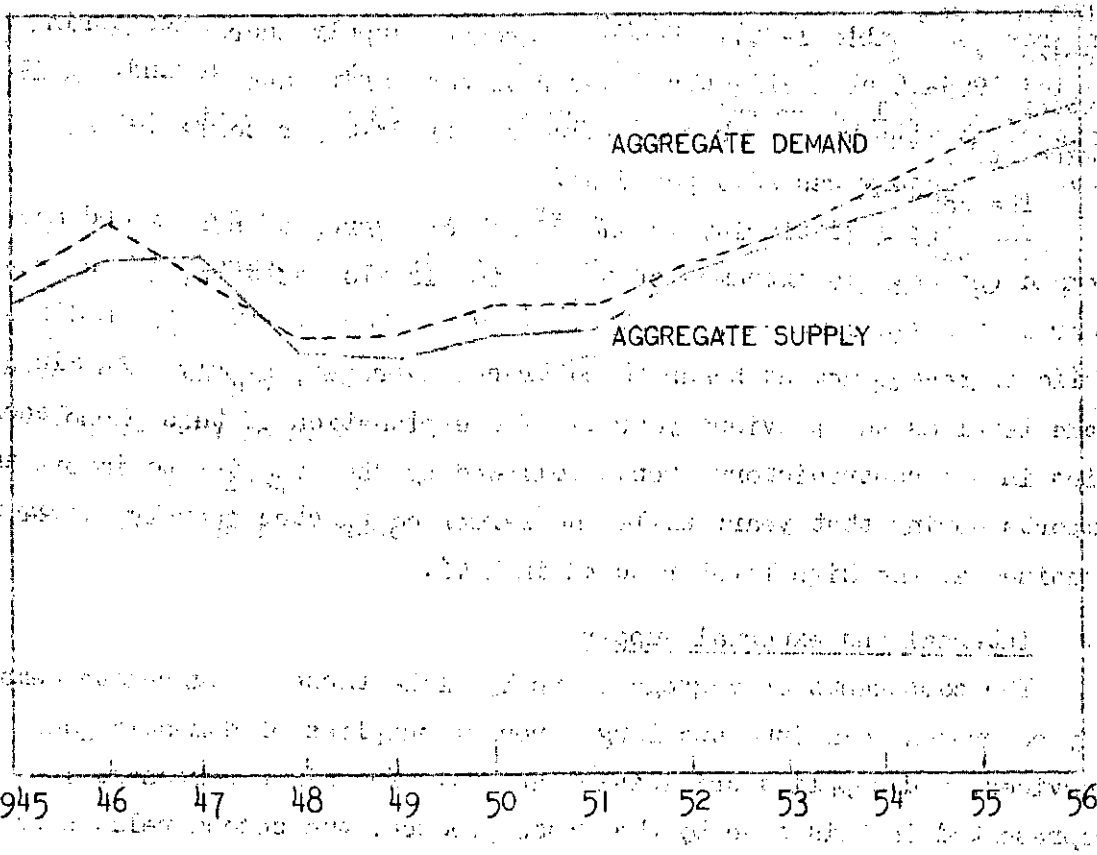


Table I-24

PANAMA: AGGREGATE SUPPLY AND DEMAND

(Millions of balboas)

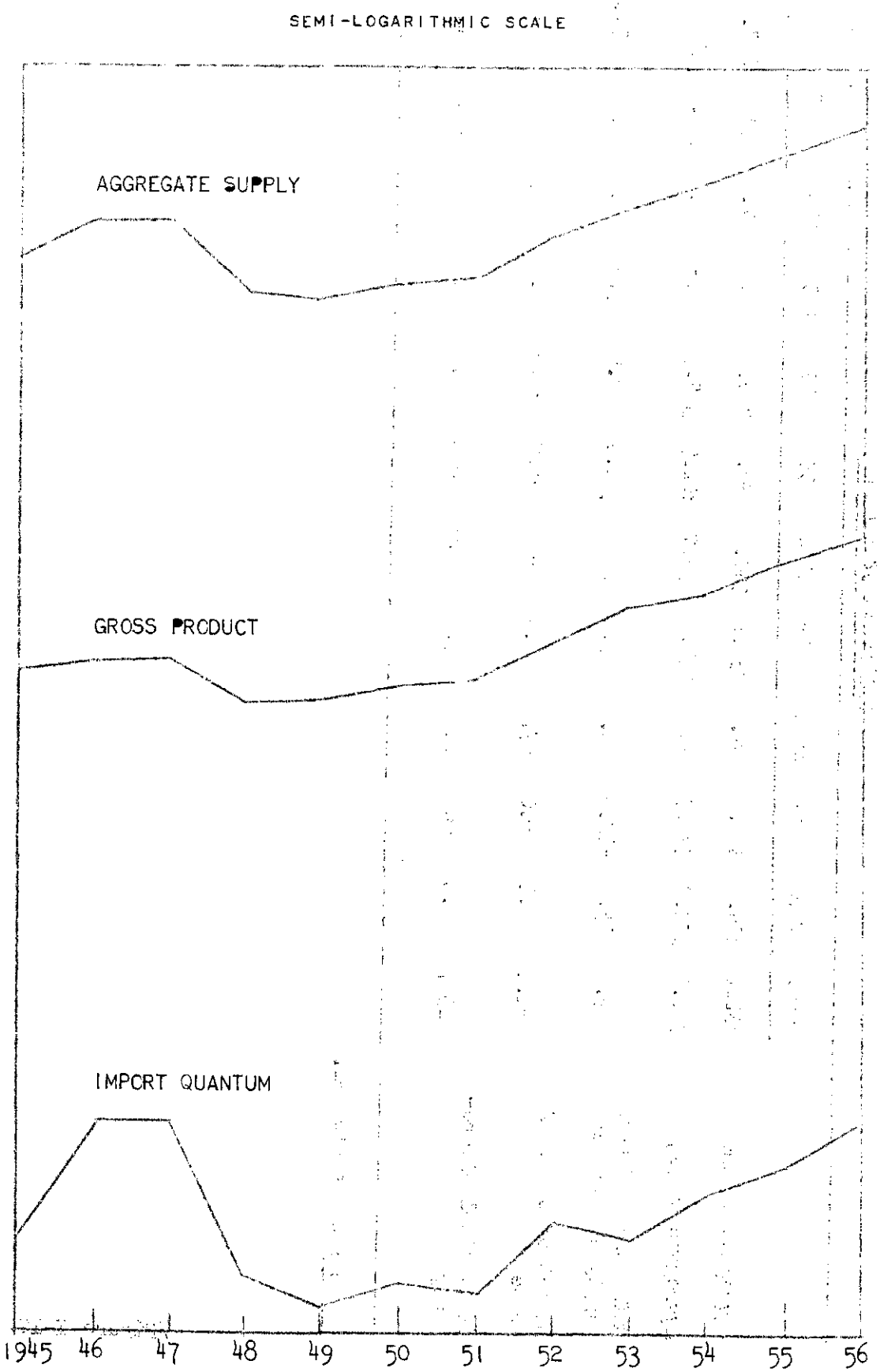
| | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aggregate demand | 361.1 | 388.2 | 360.9 | 337.1 | 338.1 | 350.7 | 350.7 | 369.8 | 384.1 | 407.1 | 432.5 | 447.2 |
| Aggregate supply | 351.5 | 372.8 | 373.5 | 333.9 | 330.9 | 338.7 | 341.9 | 365.9 | 380.5 | 394.2 | 412.7 | 429.4 |
| Difference between supply and demand | 9.6 | 15.4 | -12.6 | 3.2 | 7.2 | 12.0 | 8.8 | 3.9 | 3.6 | 12.9 | 19.8 | 17.8 |
| Effect of terms of trade | -4.1 | 6.1 | -9.0 | -7.8 | -2.3 | - | -1.7 | -4.0 | 1.2 | 8.5 | 9.8 | 6.3 |
| Statistical discrepancy | 13.7 | 9.3 | -3.6 | 11.0 | 9.5 | 12.0 | 10.5 | 7.8 | 2.4 | 4.4 | 10.0 | 11.5 |

Source: See table A-1.

/Figure I-12

FIGURE 1 - 12

PANAMA : AGGREGATE SUPPLY, GROSS PRODUCT AND IMPORT QUANTUM



supply varied only between 72.2 and 77.1 per cent, the lowest shares were recorded mostly in the initial years of the series, while the highest shares are found more often after 1949 (see table I-25). This is largely due to the exceptional levels attained by imports in the former years; but even if these are eliminated from the comparison, the tendency still persists, although in less pronounced form.[26/]

In view of the change in the direction of external demand referred to at the beginning of this chapter, and the fact that the capacity to import is the basic determinant of imports, the absence of a similar change in the break-down of aggregate supply is surprising. There are two explanations. Firstly, imports were able to expand considerably during the initial years of the period - while the capacity to import contracted sharply - because of the substantial monetary reserves which were accumulated during the war years and 1946 and were subsequently spent to meet the pent-up demand for imports. Secondly - and this is the fundamental factor - the change in the structure of supply took the form mainly of a change in the distribution of the gross product as between the export sectors and those producing for the internal market. In the following analysis the origin and magnitude of these structural changes in Panama's productive system will be examined, together with external supply, and related to the fluctuations in the level of economic activity which have occurred since the war.

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26/ For an analysis of import substitution, see chapter IV, particularly sections II.3 and III.2.

/Table I-25

Table 1-25

PANAMA: AGGREGATE SUPPLY, 1945-56

| Year | Total | Gross product | Imports | Total | Gross product | Imports |
|---|---|---|---|---|---|---|
| | (Millions of balboas at 1950 prices) | | | (Percentages) | | |
| 1945 | 351.5 | 264.8 | 86.7 | 100.0 | 75.5 | 24.5 |
| 1946 | 372.8 | 269.0 | 103.8 | 100.0 | 72.2 | 27.8 |
| 1947 | 373.5 | 269.7 | 103.8 | 100.0 | 72.2 | 27.8 |
| 1948 | 333.9 | 251.8 | 82.1 | 100.0 | 75.5 | 24.5 |
| 1949 | 330.9 | 252.8 | 78.1 | 100.0 | 76.4 | 23.6 |
| 1950 | 338.7 | 258.3 | 80.4 | 100.0 | 76.3 | 26.7 |
| 1951 | 341.9 | 262.2 | 79.7 | 100.0 | 76.7 | 23.3 |
| 1952 | 365.9 | 276.9 | 89.0 | 100.0 | 76.0 | 24.0 |
| 1953 | 380.5 | 293.2 | 87.3 | 100.0 | 77.1 | 22.9 |
| 1954 | 394.2 | 300.3 | 93.9 | 100.0 | 76.2 | 23.8 |
| 1955 | 412.7 | 314.7 | 98.0 | 100.0 | 76.2 | 23.8 |
| 1956 | 429.4 | 325.5 | 103.9 | 100.0 | 75.7 | 24.8 |

Source: Tables B-1 and B-21.

3. Internal supply: evolution of the gross product

(a) General trends

The gross product rose from 264.8 million balboas in 1945 to 325.5 millions in 1956. The increase between the two extremes of the period was 22.9 per cent, and the corresponding annual rate of increase 1.9 per cent. The gross product curve displays the characteristic initial increase, reaching its peak in the years 1946 and 1947, and then registers a contraction - in this case only of 6.6 per cent - between 1947 and 1948. The minimum level is maintained for two years and then in 1950 there is a definite recovery, so that in 1952 the previous maxima are exceeded. Between 1953 and 1956, when economic activity had returned to a more normal level, the annual rate of increase of the gross product was 3.6 per cent (see table B-1 and, again, figure I-12).

Another view of this trend is obtained if it is related to demographic growth during the period. It will be remembered that between 1945 and 1956 the population increased by 33.8 per cent, i.e. at an annual rate of 2.7 per cent. Clearly, therefore, the per capita gross product declined. In 1945, this was 377 balboas. In 1951 it fell to 321 balboas, and in 1956 it made a partial recovery to reach a figure of 346 balboas. As compared with 1945, the minimum level represents a reduction of almost 15 per cent, while the figure for the last year is still 8.8 per cent lower than that for the first year.

(b) Structural changes

The evolution of the gross product contrasts clearly with that of total private consumption, which grew at a rate of 4.3 per cent per year, and of per capita private consumption, which rose from 234 balboas in 1945 to 281 in 1956. As imports increased more moderately - at a slower rate than the gross product, strictly speaking - the rise in private consumption can be due only to a very marked change in the structure of imports in favour of consumer goods or an equally important change in the same direction in the sectoral break-down of the gross product. It has already been stated that in the last years of the period gross investment recovered its initial relative level and that the imported component of capital formation is very high;

/hence, the

hence, the former possibility must be excluded. In any case, as will be seen below, the pattern of imports has remained broadly constant. There thus remains only one possible explanation: a marked change in the sectoral break-down of the gross product. In the following paragraphs the modifications brought about in the productive system by changes in the structure of aggregate demand will be reviewed.

The sector of the gross product which suffered the severest effects from the contraction of activities in the Canal Zone was the sale of labour services to the Zone; and this process was aggravated by the efforts made to raise productivity (see table I-26). As a result, this sector was reduced practically to a third of its original level. The activity which registered the slowest rise during the period was construction. The increase of barely 14.6 per cent achieved in this sector between 1945 and 1956 was mainly due to the high level of construction during the initial years, thanks to the boom in the Canal Zone. Services, especially personal services, were also affected by the fall in external demand, rising by only 22.5 per cent over the period as a whole. It is interesting to note in addition that it is precisely these sectors which in their respective curves reflect more clearly the trend of external demand (see figure I-13).

On the other hand, the sectors most directly related to internal consumption - and also to registered exports of goods - climb fairly rapidly. For example crop - and livestock - farming expanded by almost 55 per cent, while manufacturing increased by 61.9 per cent. The basic services concerned with the production of goods, energy and transport, show even more increases, of 96.4 per cent and 70.0 per cent respectively. As a result, the sectors producing goods and basic services (including construction) show a combined rise of 54.1 per cent. But the increase in commercial, financial, public and personal services was only 38.6 per cent.

As a result of these differing trends, the break-down of the gross product had changed considerably by 1956 as compared with 1945. The combined share in the gross product of the sectors producing goods and basic services rose from 37.3 to 46.6 per cent, reflecting clearly the important change which had taken place in the structure of Panama's productive system. Of

/Table I-26

Table I-26

PANAMA: EVOLUTION OF THE GROSS PRODUCT BY SECTORS

(Percentages)

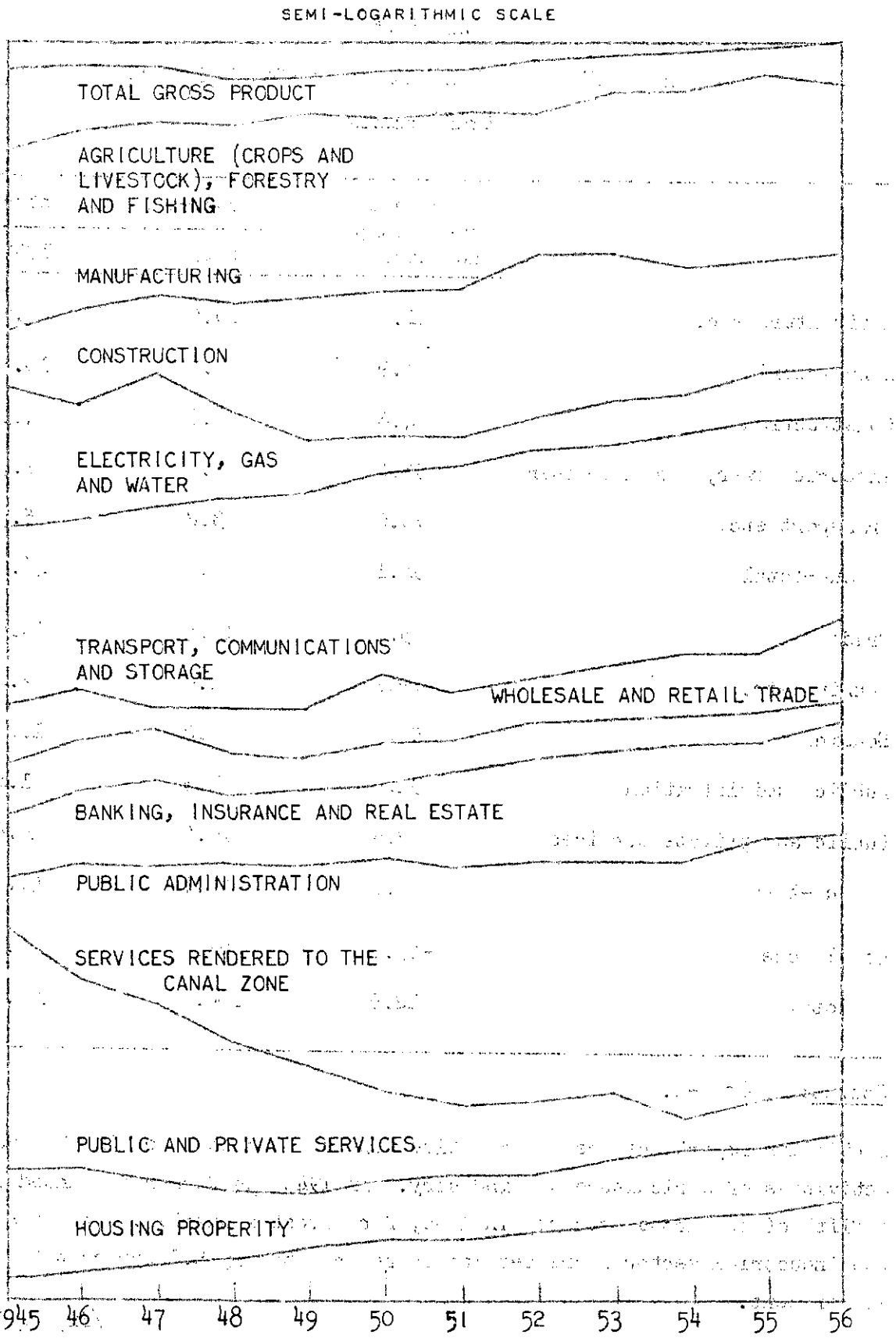
| | Increase between 1945 and 1956 | Break-down by sectors | |
|---|---|---|---|
| | | 1945 | 1956 |
| Agriculture etc. | 54.8 | 19.6 | 24.6 |
| Manufacturing | 61.9 | 8.2 | 10.8 |
| Construction | 14.6 | 4.6 | 4.3 |
| Electric power, gas and water | 96.4 | 1.1 | 1.7 |
| Transport etc. | 70.0 | 3.8 | 5.2 |
| Sub-total | 54.1 | 37.3 | 46.6 |
| Trade | 45.1 | 13.4 | 15.8 |
| Banking etc. | 79.1 | 1.6 | 2.4 |
| Housing | 52.8 | 8.8 | 10.9 |
| Public administration | 31.4 | 1.3 | 1.4 |
| Public and private services | 22.5 | 16.6 | 16.6 |
| Sub-total | 38.6 | 41.7 | 47.1 |
| Canal Zone | -63.8 | 21.0 | 6.2 |
| Total | 22.9 | 100.0 | 100.0 |

Source: Table B-1.

particular importance are the relative improvements achieved in the basic activities of agriculture and industry. In 1945 the former accounted for about a fifth of the gross product; in 1956, for almost a quarter. At the same time, the industrial sector increased its share from barely 8.2 per cent to about 11 per cent.

FIGURE I - 13

PANAMA : GROSS PRODUCT, TOTAL AND BY SECTORS



Services as a whole (excluding the Canal Zone) also increased their share of the gross product, although to a lesser extent. The relative expansion of these sectors from 41.7 to 47.1 per cent was the result of a slight increase in the share of trade and housing and a very large rise in that of financial services. On the other hand, the share in the gross product accounted for by public administration and public and private services remained more or less constant. The relative rise in almost all sectors of the economy was naturally achieved at the expense of the activity represented by employment in the Canal Zone. The contraction in this sector was so strong that its share of the gross product fell by more than a third, from 21.0 per cent in 1945 to 6.2 per cent in 1956.

Thus, the contraction in external demand related in one form or another with the Canal Zone set off a marked change in Panama's productive pattern; and this structural change acted as a stimulus to the development of the basic productive sectors. These developments, in a country whose economy has traditionally depended almost exclusively on activities connected with trade and international transit, are highly significant; previous economic booms or recessions had never had similar effects.

(c) Utilization of productive resources

Before embarking upon a detailed analysis of the principal sectors of the gross product, some observations should be made as regards the degree of utilization of productive resources during the period under review. For this purpose, it would be very useful to have some estimate of Panama's real reproducible wealth, since this would permit a study of the trend of the product-capital ratio, a coefficient which reflects precisely the degree of utilization of installed capacity. Unfortunately, such an estimate cannot be made on the basis of the statistics available. However, the evolution of economic activity in Panama during the post-war period is so characteristic that it permits a logical interpretation even in the abscence of such data.

Because of the enormous pressure of demand, the utilization of productive resources attained a maximum during the war and in the years immediately after it. From 1947 onwards, when external demand originating in the Canal Zone and in transit and tourist activities receded from its high levels,

economic activities in Panama faced a declining effective demand. To the direct unemployment of human productive factors brought about by the reduction of activities in the Zone was added the unemployment resulting from the contraction in the demand for goods and services from the Zone and from that part of the active population which had now become unemployed. The country now entered upon a period of depression and unemployment of factors - in other words, a period of underutilization of resources - which lasted probably until 1952 or 1953. The troughs of the depression were reached in 1948 and 1949, a process of recovery becoming apparent from 1950 onwards. Nevertheless, the unemployment figure at the end of that year (23 515) was still considerable. Naturally, unemployment was concentrated largely, in the cities of Panama and Colón and in the activities related most directly to the external demand derived from the Canal Zone and from transit and tourist activities. Table I-27 offers eloquent testimony to the extreme seriousness of unemployment of the Isthmus.

Around 1953 a realtively high degree of utilization of resources - particularly of fixed capital - was again registered, but the level is still lower than the maximum achieved in 1945-47. This fact is explained by a very simple principle. While the gross product can fluctuate fairly markedly, the tangible reproducible wealth cannot fluctuate to the same extent, at least over the short term. This is because fluctuations in this wealth are determined by capital depreciation and net investment. As both elements represent very small fractions, it is clear that the capital curve will fluctuate proportionately much less than the gross product. Consequently, it must be assumed that the product-capital ratio - or the utilization of productive capacity - fell considerably during the depression, after having achieved very high levels in the initial years. Subsequently, it appears to have recovered, although not to the original high figure. The explanation is that while during the initial years the effective demand generated by the Zone and by transit and tourist activities reached exceptional heights, by the end of the period this demand had fallen to a much lower level.

The suggestion is offered that during this period there were probably two qualitative by different stages in which the utilization of productive factors was high: a first stage in which both internal and external effective

Table I-27

PANAMA: RELATIVE UNEMPLOYMENT[a], TOTAL AND BY PRINCIPAL PROVINCES AND ACTIVITIES

(Percentages)

| Activity | Country total | Province of Panama | Province of Colón |
|---|---|---|---|
| Total b/ | 8.8 | 15.6 | 16.8 |
| Agriculture | 0.9 | 2.7 | 2.1 |
| Industry | 12.9 | 15.4 | 16.3 |
| Construction | 32.8 | 36.7 | 34.2 |
| Trade | 9.8 | 11.0 | 12.5 |
| Transport, storage and communications | 14.4 | 15.6 | 16.4 |
| Services | 11.8 | 13.2 | 15.3 |
| Canal Zone | 19.7 | 19.3 | 19.9 |

Source: Statistical and Census Department, Quinto Censo de Población, 1950, Vol. III, Características económicas, (Panamá, 1954).

a/ Ratio between unemployed population and employed plus unemployed population.

b/ Ratio between unemployed population and active population.

/demand were

demand were very high, and a second in which only internal demand and part of external demand were high. This second stage of "full employment" presents very special characteristics, being compatible with a certain degree of unemployment. The fundamental reason is that while the demand which fell was primarily for personal services, the demand which rose was mainly for basic goods and services. In the production of these, the amount of employment is determined by the stock of existing capital. Obviously, this cannot have grown in so short a period to the extent necessary to absorb the high proportion of idle labour available (see again table I-27).

Another important related problem remains to be clarified. If it is true - as is borne out by the experience of the immediate post-war period and the following years - that the level of economic activity in Panama depends to a very lage extent on external demand, why did the process of recovery begin in 1950 without any reactivation of this external demand having taken place? Furthermore, given the sharp contraction in the capacity to import derived from the Canal Zone and from transit and tourist activities, would it not have been reasonable to expect a much more violent and prolonged contraction in the gross product than that which actually took place?

In order to reply to these questions, reference must first be made to the exceptional growth in private consumption which occurred immediately after the war and in the following years. It must also be remembered that the external demand for goods encouraged the development of traditional export activities and indeed the creation of new exports. Finally, as regards the components of aggregate demand, it should be noted that public expenditure both for consumption and for investment began to recover from 1950 onwards. It may thus be said that the stimuli to economic recovery came both from an increase in aggregate demand and from a marked change in the composition of that demand.

Nevertheless, these stimuli would possibly not have brought about the recovery recorded after 1950 had they not been accompanied by other exceptional factors which made possible increases in investment and employment, and hence in the gross product. The comments made throughout this chapter suggest that these factors really amounted to two: (a) an important change in the

structure of relative costs in Panama vis-à-vis the rest of the world, and specially the United States, and (b) a decisive change in Panama's economic policy.

It has already been pointed out that prices in the United States surged upwards after the war. In Panama, by contrast, they fell considerably after 1948, with the result that production costs in Panama tended to decline in terms of United States production costs and that Panamanian products became more competitive both on the internal market (for import substitution) and on the external market (for the capture of new markets).

The change in economic policy really dates from the entry into force in 1950 of a decree for the protection and development of industry.[27] But this change began to make itself felt as a general line of economic policy - applied with varying degrees of intensity - only from 1951 or 1952 onwards. The new economic policy represented a strong reaction against the traditional view of what the Panamanian economy had been in the past and should be in the future (the hallowed doctrine of the Canal economy). It had its main roots in the sharp contraction which took place in economic activity, with the resultant unemployment and conditions of financial crisis, and in the need to protect the domestic productive activities which had developed thanks to the exceptional conditions prevailing during and immediately after the Second World War.

Tha Panamanian Government categorically proclaimed its intention of taking decisive action to promote the internal economic development of the country, with special emphasis on agriculture and the establishment of industrial enterprises.[28] In accordance with these aims, the decree of 1950 referred to above was confirmed by further decrees, the Economic Development Institute (Instituto de Fomento Económico) was set up, external aid was reorganized and enlarged with a view to fostering technical improvements in agriculture, the activities of the Banco Nacional de Panamá were expanded, customs tariffs were revised with a view to encouraging domestic industry,

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27/ Legislative Decree, N° 12 of 1950.

28/ See the text of the Memorias del Ministerio de Hacienda y Tesoro for the years 1951 and 1952.

/and in

and in the last years of the period, imports of certain articles were even prohibited or limited in order to protect domestic producers. It is this economic policy which helped to direct Panama's productive system along new lines. A detailed examination of the more important sectors of domestic output will illustrate the effects of this change in more specific form.

4. Internal supply: evolution of the gross product bt sectors

(a) Agriculture, forestry and fishing

(i) General trends. The gross product of agriculture - including forestry and fishing - grew considerably in the period under review, rising from a total of 51.8 million balboas in 1945 to 80.2 millions in 1956 - an increase of 54.8 per cent (see table B-1). Crop and livestock production were the main determinants of this trend, the former representing between two thirds and three quarters and the latter between 23.0 and 28.0 per cent of the sector (see table I-28).

The share of forestry and fishing was very low during the period, but both branches (and particularly the second) show some tendency to increase their relative participation. At the beginning of the period, fishing represented 0.4 per cent of the sector, and only began to exceed unity in 1951, when shrimp exports started on a large scale. Because of this factor, it continued to rise; in 1953 it represented 4.1 per cent of the agricultural sector, a share which was subsequently maintained at the same level.

(ii) Crop production. The gross value of crop production amounted to 33.5 million balboas in 1945 and in 1956 had increased to 52.5 millions (see table I-29). The growth curve displays a fairly irregular trend, characterized by a very steep rise in the initial years, followed by a relatively stagnant period up to 1952-53 and by a marked upsurge in the last years. In 1956, however, as a result of very bad weather, it again suffered a considerable decline (see figure I-14).

The two main sectors into which crop production has been divided showed diferent trends. Production for the internal market increased more regularly and more markedly than the export sector. As a result of this divergence, the share of traditional crops rose from between 55 and 56 per cent in the earlier post-war years to almost 60 per cent in the later years of the period. In some cases - 1945, 1952 and 1953 - the proportion rose to almost 65 per cent: but his was due to special circumstances which restricted banana exports.

It is important to note that the tendency shown by crop production for internal consumption to expand its relative share in crop production

/Table I-28

Table I-28

PANAMA: RELATIVE SIZE OF THE CROP, LIVESTOCK, FORESTRY AND FISHING SECTORS a/

(Percentages)

| Year | Total | Crops | Livestock | Forestry | Fishing |
|---|---|---|---|---|---|
| 1945 | 100.0 | 63.9 | 35.5 | 0.2 | 0.4 |
| 1946 | 100.0 | 72.0 | 27.4 | 0.2 | 0.4 |
| 1947 | 100.0 | 70.8 | 28.6 | 0.2 | 0.4 |
| 1948 | 100.0 | 78.3 | 20.9 | 0.3 | 0.5 |
| 1949 | 100.0 | 75.3 | 23.8 | 0.3 | 0.6 |
| 1950 | 100.0 | 75.8 | 23.0 | 0.6 | 0.6 |
| 1951 | 100.0 | 70.0 | 27.6 | 1.0 | 1.4 |
| 1952 | 100.0 | 69.1 | 27.1 | 1.4 | 2.4 |
| 1953 | 100.0 | 66.0 | 28.5 | 1.4 | 4.1 |
| 1954 | 100.0 | 69.4 | 26.6 | 0.6 | 3.2 |
| 1955 | 100.0 | 70.0 | 25.9 | 0.8 | 3.3 |
| 1956 | 100.0 | 64.7 | 30.3 | 0.5 | 4.5 |

Source: Table B-6.

a/ In terms of gross value of production.

/Table I-29

Table I-29

PANAMA: CROP PRODUCTION, TOTAL, FOR INTERNAL MARKET AND FOR EXPORT

| Year | Total | For internal market | For export | Total | For internal market | For export |
|---|---|---|---|---|---|---|
| | (Millions of balboas at 1950 prices) | | | (Percentages) | | |
| 1945 | 33.5 | 21.6 | 11.9 | 100.0 | 64.5 | 35.5 |
| 1946 | 43.1 | 23.7 | 19.4 | 100.0 | 55.0 | 45.0 |
| 1947 | 44.3 | 24.7 | 19.6 | 100.0 | 55.8 | 44.2 |
| 1948 | 48.9 | 27.3 | 21.6 | 100.0 | 55.8 | 44.2 |
| 1949 | 50.1 | 28.3 | 21.7 | 100.0 | 56.6 | 43.4 |
| 1950 | 49.8 | 30.5 | 19.3 | 100.0 | 61.2 | 38.8 |
| 1951 | 47.4 | 29.1 | 18.2 | 100.0 | 61.5 | 38.5 |
| 1952 | 46.6 | 30.1 | 16.5 | 100.0 | 64.6 | 35.4 |
| 1953 | 50.2 | 32.6 | 17.6 | 100.0 | 64.9 | 35.1 |
| 1954 | 53.8 | 33.1 | 20.7 | 100.0 | 61.5 | 38.5 |
| 1955 | 58.9 | 34.2 | 24.7 | 100.0 | 58.1 | 41.9 |
| 1956 | 52.5 | 31.3 | 21.2 | 100.0 | 59.6 | 40.4 |

Source: Table B-6.

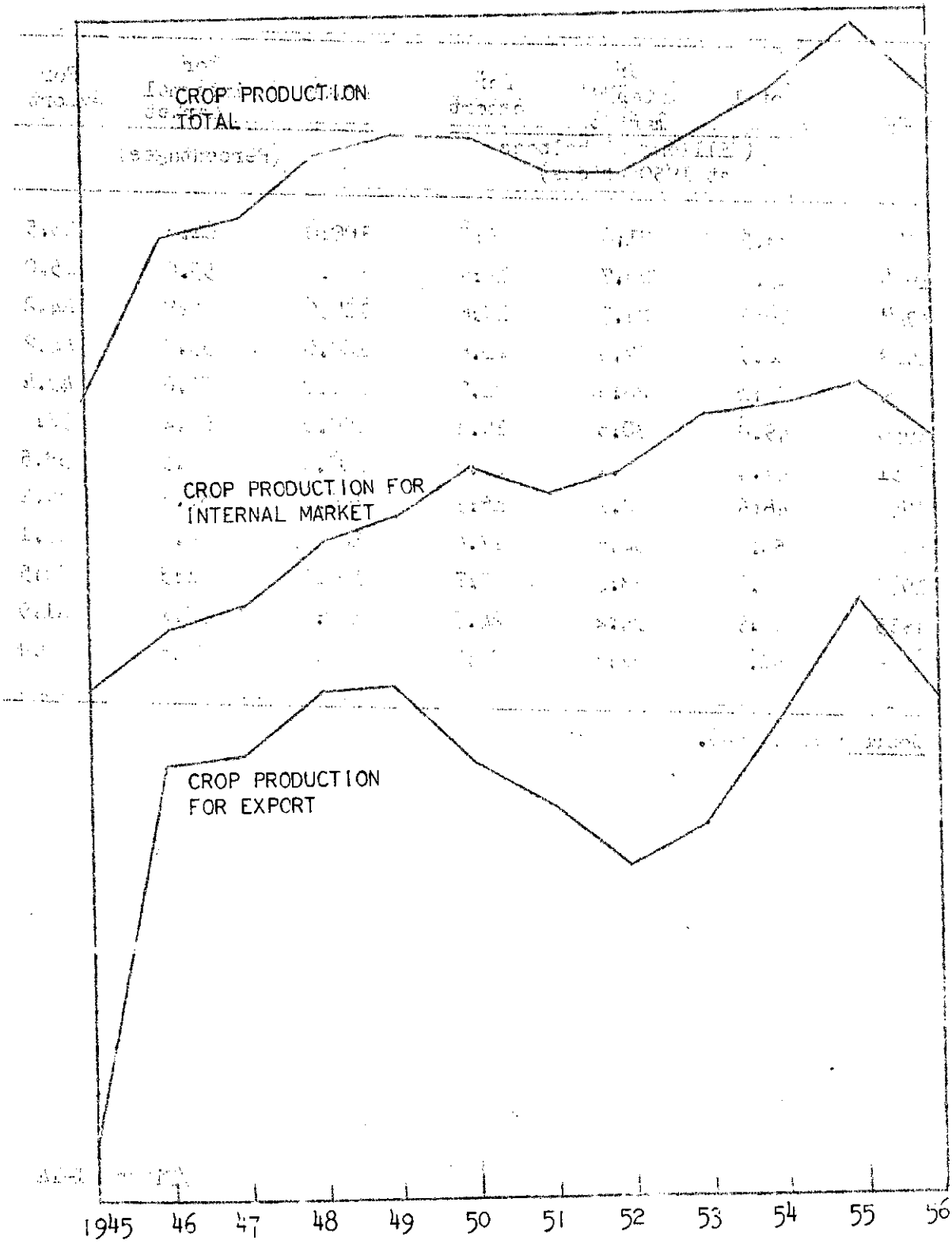
/Figure I-14

FIGURE - 14

PANAMA : CROP PRODUCTION, TOTAL, FOR INTERNAL MARKET AND FOR EXPORT

(MILLIONS OF BALBOAS AT 1950 PRICES)

SEMI-LOGARITHMIC SCALE



as a whole seems to reflect, from the point of view of production, the change which took place in aggregate demand.

The factor responsible for the regular growth of the crop sector as a whole is the export branch. This is made up to a large extent by products - bananas, abaca and cacao - shipped abroad by a large foreign company. Only in exports of cacao do domestic producers enjoy any significant share. The marked fluctuations observed in the exports of the products mentioned were due to factores connected with external demand and the conditions of banana production. These aspects are fully dealt with in other sections of this study. 29/

Crop production for the internal market is made up almost exclusively of staple foodstuffs, the most important being rice, maize, coffee, bananas and sugar-cane, in that order. These products taken together, with additional commodities of less importance - beans, potatoes, tobacco, tomatoes, cabbage and "others" - accounted for a gross value of 21.6 million balboas in 1945, and of 31.3 million balboas in 1956. The increase achieved was thus 44.9 per cent, while the demographic increase, it will be remembered, was 33.8 per cent. The per capita production of foodstuffs thus increased by 8.3 per cent over the period (see table B-6).

In the curve of crop production for the internal market two fairly distinct phases may be observed. The first corresponds to the period 1945-50, and is characterized by a very steady and pronounced increase (41.2 per cent). The second, which runs from 1950 to 1956, is not only more irregular - with sharp decline in 1951 and 1956 - but also shows an appreciably smaller rate of growth.

Why did production for the internal market register such a marked rise precisely in the years in which Panama's economy was passing through a period of contraction? Firstly, Panama possessed sufficient land to be able to increase crop production merely be extending the area under cultivation. Secondly, farm output was strongly stimulated up to 1947

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29/ For a datailed analysis of recent trends and future prostects for bananas, abaca and cacao, see this chapter, section II.3.c, and chapter III, section II.1.a.

by a high level of demand and subsequently by a decidedly protectionist policy. 30/

This represented a completely new experience for Panamanian agriculture, which in the past had been unable to compete with imports. At the end of the war and shortly after the boom in the Canal Zone, this weakness which would have meant a sharp decline in crop production, did not recur. The change in internal and external prices already referred to had placed Panamanian production in a more favourable position. Moreover, official policy encouraged agriculture, continuing the efforts made during the war to increase domestic food production. 31/ The war boom had also resulted in a strong current of migration from the rural areas towards the Isthmus, so that between 1948 and 1950 there was a rise of 44.6 per cent in the population of the district of Panama and an increase of 37.6 per cent in the total urban population. As the demand for basic foodstuffs is very inelastic, both as regards income and price, this migration in itself resulted in a considerable expansion of the market and despite the exodus from the rural areas led to an increase in the commercial production of crops for consumption in the urban areas.

Imports, particularly of non-durable consumer goods, declined after 1946. The curtailment of external supply which had had a decisive effect in stimulating production during the war persisted in the subsequent years because of the fall in the capacity to import.

Lastly, the prices of grains and grain products did not fall after 1947, as occurred with most other prices. The consequent improvement in relative prices must also have helped to stimulate production; the relative prices of grains, in terms of the general price index, improved by almost 11.0 per cent between 1947 and 1950, after having already registered an increase in the preceding period. This was particularly the case with rice and maize, the increase in the prices of which had a decisive effect

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30/ For a more detailed analysis of this phenomenon see this chapter, section II.

31/ See Servicio Interamericano de Cooperación Agrícola en Panamá (SICAP), Once años de colaboración en agricultura y recursos naturales, Panama, 1953.

on the growth of production for internal consumption.

Rice production rose by 66.9 per cent between 1945 and 1956. In the first three years of the period, the level of production was maintained between 1.2 and 1.3 million quintals, but in 1953 it had reached the figure of 2.4 millions, almost double the output recorded in the initial year (see table I-30). From that year onwards, and in spite of the fact that production subsequently remained stationary, imports were completely eliminated and self-sufficiency was thus achieved in the most important item of Panamanian diet (see table IV-5).

The expansion in rice output was mainly due to a marked increase in the area planted, although in the early years of the period a rise in unit yields was also a contributing factor. In 1945 and 1946 yields were maintained at a level of about 26 quintals per hectare; subsequently they reached a level fluctuating between 28 and 30 quintals per hectare. From 1954 on, however, they returned to their former level, and production remained stationary (see again table I-30).

To give a clearer idea of the problems at present confronting rice production, certain additional features which have characterized its development since 1948 should be stressed. The marked increase in the cultivated area was concentrated in the provinces of Chiriquí and Veraguas where almost half on the area planted to rice is to be found. In order to achieve the increase, large tracts of land formerly used for on-the-range livestock farming were used. The change in the employment of these resources gave rise to important changes in the agrarian system and in the pattern of economic organization. So far as the land system is concerned, the development of rice production in many cases divorced the ownership from the exploitation of land. Leasehold became an important form of tenancy in the principal producing zones. The change in economic organization consisted in the formation of holdings for large scale production in which the crop was cultivated with the help of modern machinery and equipment.

In this manner there emerged a group of agricultural entrepreneurs who put into practice modern cultivation techniques and organized production with a view to the market. In addition to mechanization, the use of

Table I-30

PANAMA: NET AND GROSS PRODUCTION, SOWN AREA AND YIELDS OF RICE

| Year | Production (thousands of quintals) | | Sown area (thousands of hectares) | Yields (quintals per hectare) |
|---|---|---|---|---|
| | Net a/ | Gross | | |
| 1945 | 1 258 | - | - | - |
| 1946 | 1 160 | 1 184 | 46.0 | 25.8 |
| 1947 | 1 294 | 1 325 | 51.8 | 25.6 |
| 1948 | 1 591 | 1 638 | 54.4 | 30.1 |
| 1949 | 1 693 | 1 745 | 62.6 | 27.9 |
| 1950 | 1 792 | 1 849 | 67.5 | 27.4 |
| 1951 | 1 808 | 1 866 | 65.7 | 28.4 |
| 1952 | 1 943 | 2 009 | 67.4 | 29.8 |
| 1953 | 2 374 | 2 414 | 79.5 | 30.4 |
| 1954 | 2 113 | 2 144 | 82.6 | 26.0 |
| 1955 | 2 116 | 2 126 | 86.8 | 24.5 |
| 1956 | 2 099 | 2 129 | 85.1 | 25.0 |

Source: Table B-5 and Statistical and Census Department, Panama.

a/ Gross production minus losses and reserves for seed.

/high-yield

high-yield certified seed helped to raise the level of output. However, the transitory type of cultivation which is characteristic of a leasehold system ruled out any possibility of creating the incentives necessary for the maintenance and improvement of land fertility on the basis of generalized and intensive fertilizer techniques. This explains the failure to carry out those permanent improvements, such as the exploitation of water resources, which are essential for a steady rise in the level of rice productivity.

In these circumstances, production developed along extensive lines, without proper irrigation, and with no regard for the need to conserve the relatively poor soils. The lack of a reliable water supply for irrigation and the rapid exhaustion of the land explain why crop production remained stationary during the later years of the period. It is true that after 1954 weather conditions were generally bad O drought caused heavy damage - but it is precisely because of the lack of the permanent improvements referred to that the crop has been so much at the mercy of nature.

Maize is another item in which production grew rapidly between 1945 and 1956. The volume of the crop more than doubled, rising from an annual average of 642 000 quintals to more than 1 300 000 in 1956 (see table I-31). The increase was continuous until 1955, in which the maximum output of 1 436 000 quintals was registered. Nevertheless, maize imports were eliminated only in 1957, as a result of the buffer effect of the storage facilities which began to operate at the beginning of that year. As in the case of rice, the increase in maize production was achieved by a marked expansion (130 per cent) in the cultivated area (from 36 200 hectares in 1946 to 83 400 hectares in 1956). On the other hand, unit yields had no effect on the increase. Over the period as a whole these fluctuated between 19 and 22 quintals per hectare. During the latter years of the period there was a slight declining trend: the annual average for the three years 1954-56 was 7 per cent lower than for 1946-48.

/Table I-31

Table I-31

PANAMA: NET AND GROSS PRODUCTION, SOWN AREA AND YIELDS OF MAIZE

| Year | Production (thousands of quintals) | | Sown area (thousands of hectares) | Yields (quintals per hectare) |
|---|---|---|---|---|
| | Net a/ | Gross | | |
| 1945 | 601 | - | - | - |
| 1946 | 683 | 817 | 36.2 | 22.6 |
| 1947 | 720 | 863 | 43.7 | 19.7 |
| 1948 | 841 | 1 015 | 46.3 | 21.9 |
| 1949 | 985 | 1 194 | 57.2 | 20.9 |
| 1950 | 1 130 | 1 376 | 69.2 | 19.9 |
| 1951 | 1 210 | 1 475 | 71.4 | 20.7 |
| 1952 | 1 279 | 1 562 | 72.6 | 21.5 |
| 1953 | 1 398 | 1 677 | 85.9 | 19.5 |
| 1954 | 1 372 | 1 645 | 86.0 | 19.1 |
| 1955 | 1 463 | 1 757 | 83.4 | 21.1 |
| 1956 | 1 337 | 1 602 | 83.4 | 19.2 |

Source: Table B-2 and Statistical and Census Department, Panama.

a/ Gross production minus losses and reserves for seed.

/The special

The special technical and organizational conditions in which maize is produced have a bearing on this situation; for in Panama maize is a typical subsistence-farming product. It is cultivated in productive units of tiny size, and the period of exploitation is very short. Such holdings, which are known as conucos, provide a large sector of the rural population with subsistence. The methods used in them frequently neglect the breaking up of the land, and nothing is known about the use of hybrid seeds and improved varieties. The utilization of fertilizer, pest and disease control and mechanization are also very rare.

In Panama, unlike the other Central American countries, maize is not an important item in the diet of the people. Much of the crop is used for animal fodder, and only a very small proportion is marketed. However, the development of maize production, with particular emphasis on an increase in yields, is particularly important for the provision of cheap and adequate supplies of feeds with a view to expanding livestock production.

The production of beans exactly doubled between 1945 and 1950, rising from 57 000 to 114 000 quintals (see table I-32). From 1951, it remained stationary around the level of 100 000 quintals, and in the last years of the period 0 except for the 1955 crop - it barely rose above 80 000 quintals. At the same time, the area under cultivation was substantially extended, rising from 10 000 hectares in 1946 and 1947 to more than 15 000 in 1956, with peaks higher than 18 000 hectares in 1954 and 1955. The stagnation and subsequent decline in the crop must be due to the yields, which, after maintaining a level of 12.1 quintals per hectare between 1945 and 1950, began to decline from 1951. In spite of a slight recovery in 1954 and 1955, the yield in 1956 was barely 7 quintals per hectare. This marked fall in unit yields of beans reflects with particular intensity the deficiencies in techniques and organization which have already been mentioned.

/Table I-32

Table I-32

PANAMA: NET AND GROSS PRODUCTION, SOWN AREA AND YIELDS OF BEANS

| Year | Production (thousands of quintals) | | Sown area (thousands of hectares) | Yields (quintals per hectare) |
|---|---|---|---|---|
| | Net a/ | Gross | | |
| 1945 | 57 | - | - | - |
| 1946 | 84 | 114 | 9.4 | 12.1 |
| 1947 | 87 | 118 | 9.8 | 12.1 |
| 1948 | 92 | 125 | 10.4 | 12.1 |
| 1949 | 97 | 134 | 11.1 | 12.1 |
| 1950 | 114 | 157 | 13.0 | 12.1 |
| 1951 b/ | 122 | 78 | 7.1 | 11.0 |
| 1952 | 92 | 126 | 12.4 | 10.1 |
| 1953 | 97 | 132 | 25.0 | 5.3 |
| 1954 | 83 | 111 | 18.0 | 6.2 |
| 1955 | 116 | 158 | 18.5 | 8.6 |
| 1956 | 80 | 107 | 15.3 | 7.0 |

Source: Table B-5 and Statistical and Census Department, Panama.

a/ Gross production minus losses and reserves for seed.

b/ Sown up to 31 July.

(iii) Some general problems of the crop sector. Analysis of the main crops grown for internal consumption has shown that the sector is characterized by highly rudimentary methods, with minifundia playing an important rôle. Advanced techniques such as the use of hybrid seeds and improved varieties, fertilization and pest and disease control are still rarely employed. Nor are there enough holdings big enough to absorb modern techniques on an economic scale.

This situation is largely due to the fact that in Panama commercial agriculture is of very recent origin. For this same reason, the present degree of utilization of land potentially usable for crop cultivation and livestock-farming is very small. It is reckoned that the country possesses 2.7 million hectares which could be used for agricultural purposes; but at present only 1.2 million hectares, or 44 per cent, are under farms. The land tenure system characteristic of these farms, also reveals their recent origin; of the total area of 1.2 million hectares of farm land, 500,000 hectares (46 per cent) are held under usufruct, i.e. used for agricultural purposes without title of ownership.[32] It is precisely on land of this kind that most of the minifundia are concentrated, and that the phenomenon of the conuco, a minifundium characteristic of the semi-nomadic rural population, is to be found.

As modern techniques can bear fruit only in permanent holdings of adequate size, the stabilization of property relationships in these lands is essential for raising the level of farm productivity. Furthermore, farm credit programmes serving as effective instruments for agricultural development are conceivable only given stable and well-defined conditions of ownership.

Another of the basic obstacles to technical progress in Panamanian agriculture is the acute shortage of energy sources. In 1950, 99 per cent of farms were without means of mechanical, animal or any other traction. It is hardly surprising therefore that the practice of breaking up the land is so rare. The magnitude of the problem becomes clear when it is

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32/ Statistical and Census Department, Censos Nacionales de 1950: Primer Censo Agropecuario, Panama, 1954.

/considered that

considered that in 1950 there were only 506 ploughs on all Panamanian farms[33].

These comments threw some light on the real nature of Panama's agricultural problems. While the lack of means of traction is not remedied (and this in turn requires the organization of sufficiently large holdings)[34] and while land preparation is inadequate (particularly as regards the practice of breaking up the land) the results possible from the utilization of high-quality seeds, fertilizers and other modern techniques will be extremely limited.

A general problem which will have to be solved before agriculture can be reorganized and modernized is that of directing the agricultural sector into the commercial channels of the market economy. If this is not achieved, such development measures as the granting of property titles and the supply of means of traction and of seeds, fertilizers and pesticides, which involve monetary transactions, will have little hope of success. Furthermore, the enlargement of the monetary sector of the Panamanian economy is essential for the expansion of internal market - the only permanent basis for a cumulative process of economic development.

The very recent development of commercial farming in Panama and the country's traditional economic policy also explain why the rural areas are so poorly endowed with basic social capital. In the following sections, in which the energy and transport sectors are analysed, deficiencies of this type will be studied in greater detail. Suffice it to point out here that in 1950 only 8 per cent of farms sent their products to the market by lorry more than 75 per cent using animal or human transport for this purpose.[35]

The defective economic infrastructure of Panamanian agriculture is the main limiting factor affecting this activity, in all its aspects. It is this obstacle which prevents increasing the yields of the main crops; which dooms to failure the intensive efforts made to introduce modern farming techniques; which rules out the development of new areas suitable for agriculture; and, in short, which militates against a continued rise in the output and productivity of the farm sector. More generally, it also prevents the economic integration of Panama into a single goods and factors market. But such integration is absolutely essential if the economy as a whole is to itensify and rationalize the use of its productive resources - especially human resources - and thereby accelerate Panama's rate of economic development.

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33/ Ibid.

34/ Even methods of animal traction involve certain technical requisites. Studies recently carried out in Costa Rica indicate that the purchase of work animals and their equipment is uneconomic in holdings of less than 3.5 hectares.

(b) Manufacturing

The industrial production sector was one of those which developed most between 1945 and 1956. In 1945, the gross product of the sector was 21.8 million balboas; in the final year of the period it reached 35.3 millions. This represents a total increase of 61.9 per cent, equivalent to an annual rate of 4.5 per cent. In spite of the considerable size of this increase, there are signs that Panama's industrial development was in fact more intense than is reflected by these figures. It will readily be seen that of the four branches which make up the index for the industrial sector, three grow with remarkable rapidity while the fourth - beverages - tends to decline (see table B-8 and figure I-15). The relative size of each is affected accordingly. In the early years of the period, the most important sector was beverages, mainly because of the strong demand originating in the Canal Zone. As a result of this and of the backwardness of Panama's industrial development, this sector represented in 1945 47 per cent of the gross value of industrial production.36/

With the contraction of its principal market, however, the beverages sector reduced its production in absolute terms. The output of beer, which in 1945 had been enormous - 26.2 million litres - fell to exactly half this figure in 1950. It then recovered slightly and in the last years of the period fluctuated around 15 million litres (see table B-7). The output of alcoholic beverages dropped from 3.0 million litres in the first year of the period to 2.4 million in 1950, and subsequently continued to decline. Production of carbonated beverages, a less important component in terms of value, decreased from 2.5 million cases in the initial year to 2.0 million in 1950 and then recovered its former

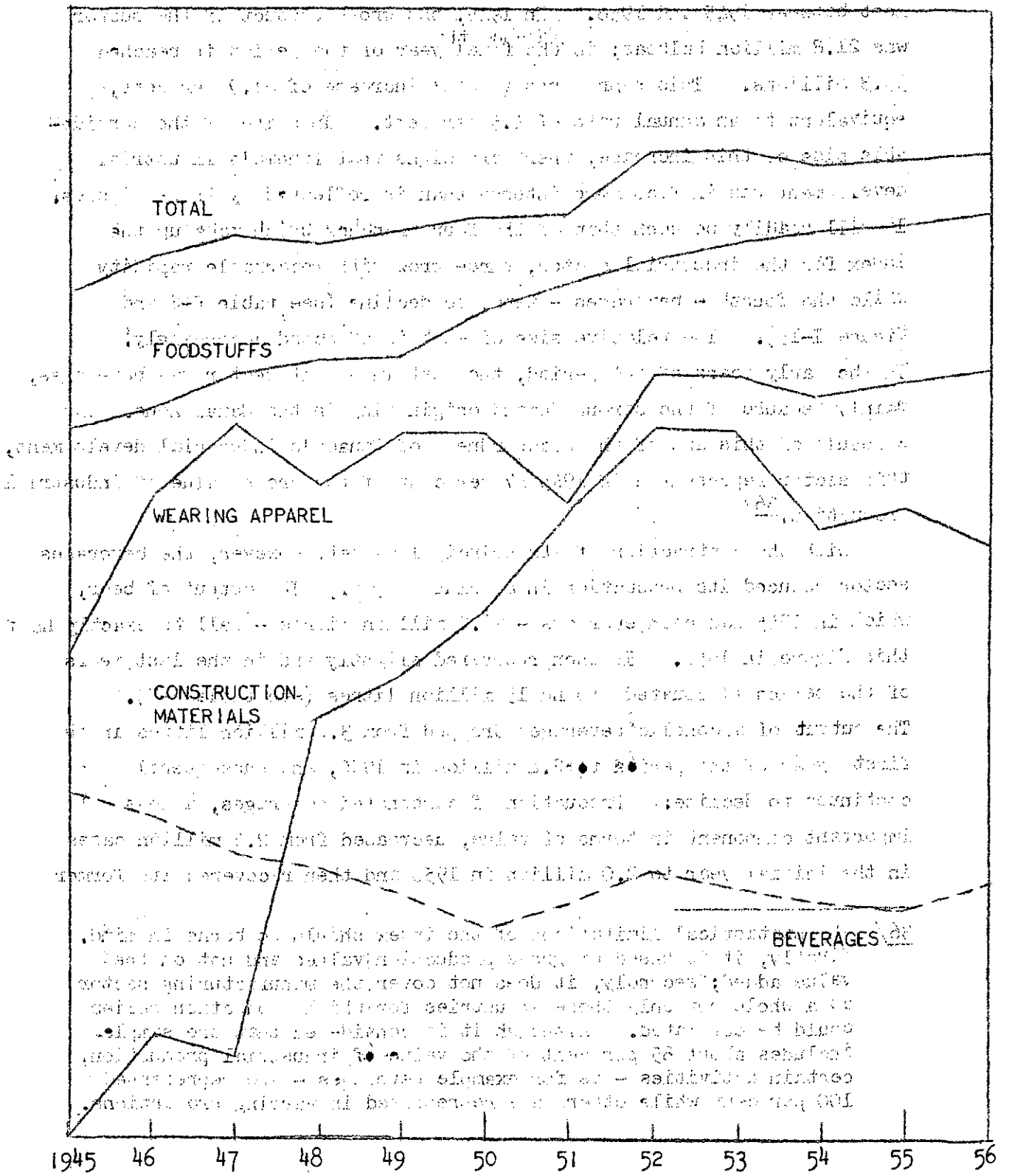
36/ The statistical limitations of the index should be borne in mind. Firstly, it is based on gross production values and not on the value added; secondly, it does not cover the manufacturing sector as a whole but only those industries for which production series could be estimated. Although it is considered that the sample includes about 85 per cent of the value of industrial production, certain activities - as for example beverages - are represented 100 per cent while others are represented in varying proportions.

/Figure I-15

FIGURE 1 - 15

PANAMA : INDUSTRIAL PRODUCTION, TOTAL AND BY MANUFACTURING BRANCHES

SEMI-LOGARITHMIC SCALE




/level in

level in the final years. As a result of the sharp reduction in the manufacture of alcoholic and non-alcoholic beverages, and of the rapid growth in the other manufacturing sectors - as will be seen below - the relative size of this branch had fallen to 23.5 per cent by 1950. Subsequently, it continued to fall, although less rapidly, but from 1953 on it levelled off at around 21 per cent, total industrial output having also become stationary (see table I-33).

The three remaining sub-indices increased in absolute and a fortiori in relative terms. The combined value of production went up by 140 per cent - almost two and a half times - as compared with an increase of 62 per cent for the sector as a whole (see table I-34). This very great increase was basically due to the establishment during this period of a series of new industrial undertakings, a development which must be carefully studied because it is closely related to Panama's new economic policy and to the important change which took place in the structure of industrial production.

Of the three industrial branches which experienced so dynamic an expansion, the one which acquired the greatest relative importance in the later years of the period is foodstuffs, its share of the gross value of total industrial output having risen to over a third. The production of processed foodstuffs developed to such an extent that its gross value doubled in the twelve years of the period - which implies an increase of 6.5 per cent per year. This rate is almost two and a half times as great as the rate of increase of the population, and is one and half as great as the annual rise in private consumption. It provides a good indication of the intensity of the import substitution effort made in this branch.[37] A clearer idea is obtained by referring again to table B-8 and grouping together the activities which were launched during the period, or whose initial level was very small. These are, mainly, the production of evaporated milk and tomato paste and sauce, among the former, and the production of sugar, edible oils and fats, sausages etc. and salt, among the latter. In 1945, the combined value of the output of these activities was barely 1.3 million balboas. By 1950, the figure has risen to 4.5 million and in 1956 to 7.3 million

37/ See Chapter IV, section II.3.

/Table I-33

Table I-33

PANAMA: BREAK-DOWN OF INDUSTRIAL PRODUCTION

(Percentages)

| Year | General total | Sub-total excluding beverages | Foodstuffs | Beverages | Wearing apparel | Construction materials |
|---|---|---|---|---|---|---|
| 1945 | 100.0 | 53.0 | 30.2 | 47.0 | 20.9 | 1.9 |
| 1946 | 100.0 | 61.6 | 28.3 | 38.4 | 31.0 | 2.3 |
| 1947 | 100.0 | 68.6 | 29.8 | 31.4 | 36.8 | 2.0 |
| 1948 | 100.0 | 69.0 | 31.8 | 31.0 | 31.0 | 6.2 |
| 1949 | 100.0 | 72.8 | 30.7 | 27.2 | 35.3 | 6.8 |
| 1950 | 100.0 | 76.5 | 34.5 | 23.5 | 33.9 | 8.1 |
| 1951 | 100.0 | 75.1 | 37.2 | 24.9 | 26.7 | 11.2 |
| 1952 | 100.0 | 77.6 | 32.8 | 22.4 | 33.0 | 11.8 |
| 1953 | 100.0 | 78.6 | 34.4 | 21.4 | 32.5 | 11.7 |
| 1954 | 100.0 | 78.7 | 37.7 | 21.3 | 32.2 | 8.8 |
| 1955 | 100.0 | 79.5 | 37.3 | 20.5 | 32.9 | 9.3 |
| 1956 | 100.0 | 78.6 | 37.5 | 21.4 | 33.2 | 7.9 |

Source: Table B-8.

/Table I-34

Table I-34

PANAMA: EVOLUTION OF GROSS VALUE OF INDUSTRIAL PRODUCTION, TOTAL AND BY BRANCHES

| | 1956 (1945=100) | Break-down of industrial production (percentages) | | |
|---|---|---|---|---|
| | | 1945-47 | 1949-51 | 1954-56 |
| Foodstuffs | 200.4 | 29.4 | 34.2 | 37.5 |
| Beverages | 73.6 | 38.4 | 25.2 | 21.0 |
| Wearing apparel | 256.8 | 30.1 | 31.9 | 32.8 |
| Construction materials | 688.8 | 2.1 | 8.7 | 8.7 |
| Total | 161.8 | 100.0 | 100.0 | 100.0 |
| Total excluding beverages | 239.9 | 61.6 | 74.8 | 79.0 |

Source: Table B-8.

/a share

a share of almost 40 per cent of the value of the output of processed foodstuffs.

The next most important industrial branch is the manufacture of wearing apparel. At the beginning of the period it represented a little more than a fifth of industrial output; but in the following years it raised its share to a third, and it maintained this share during the rest of the period. This branch, of course, includes a large proportion of artisan and domestic output, in the production both of footwear and, more especially, of textiles. The output of footwear rose from 156,900 pairs in 1945 425,700 in 1956, or 2.7 times. The production of textiles grew at a slightly lower rate - two and a half times - while the output of wearing apparel increased 2.6 times. In this case, too, there was considerable substitution of the imported product - if not of the complete article then at least of certain final processes of production - by domestic manufacture.

In terms of quantity, the smallest component of manufacturing production is construction materials. However, the evolution of this branch is particularly interesting because if reveals a notable import substitution effort, which is important not only for its magnitude but, in particular, because it takes place within a production goods sector. The value of construction materials produced in Panama increased from a little over 500,000 balboas in 1945 to almost 4 millions in 1956. This almost sevenfold increase is due to the fact that while in the initial years only timber and tiles were produced in Panama, paints and, particularly, cement (now one of the country's biggest industries) were subsequently added to the items domestically manufactured. In spite of the establishment of these new industries, the value of the output of construction materials began to rise only towards 1952. Most of the increase was of course due to the fact that paint production had been begun in 1946 and cement production in 1948. But in 1950 the latter industry succeeded in eliminating imports, and in the following year it began exporting cement in large quantities. As a result, the industry had by 1952 raised its output almost to capacity; but subsequently, when the external market disappeared, production fell

/back to

back to the level of the internal market and of the Canal Zone. A similar development took place in the output of timber, which also was exported on a large scale between 1951 and 1953.

Because of these very considerable changes in the scale of the construction materials industry and its internal and external demand, the share of this sector in industrial output fluctuated appreciably. During the initial years, it barely reached 2 per cent; but from 1948, when cement production began, it exceeded 6 per cent. During the three-year boom in timber and cement exports, the sectoral share rose to about 12 per cent, but during the last three years of the period it again fell (to less than 8 per cent in 1956). But in spite of its stagnation in these later years, this branch was responsible for the greatest individual import substitution effort during the post-war period. Cement is worthy of special emphasis, not only because it succeeded during the period 1951-53 in becoming a fairly important export item, but also because the existence of a domestic supply of this basic construction material frees investment to a large extent from the contingencies of external trade.

This analysis shows clearly that Panama's industrial development after the war was highly intense. The basic factor in this development was the creation of new industrial activities and the expansion of those which in 1945 had still been in the embryo stage. The output of evaporated milk, tomato paste and sauce, cement and paints, which was nil in the initial years of the period, represented in 1950 more than 6 per cent of the gross value of manufacturing production. By 1956 this proportion had risen to almost 10 per cent. If to the output of the recently established industries is added the production of sugar, edible oils and fats, sausages etc., salt, footwear, and sawn wood - which in the initial year was still very small - it will be seen that these new and incipient branches of manufacturing represent in combination a share of the total value of industrial production amounting to 6.9 per cent in 1945, 21.3 per cent in 1950 and 25.3 per cent in 1956.

/Nevertheless, the

Nevertheless, the traditional sectors of manufacturing production also expanded markedly, except of course in the case of beverages and of condensed milk - which was substituted by fresh milk and other forms of processed milk. The output of processed rice, for example, increased from 11,300 tons in 1945 to 18,800 tons in 1956 - an increase of 66.4 per cent - the peak figure of 21,300 tons having been reached in 1953 (see table B-7). The increase in bakery products (the most important individual item in the foodstuffs sub-index) between the extremes of the period was 45.3 per cent in terms of volume. Textiles, which constitute one of the most important individual items within the total manufacturing sector, registered over the whole period an increase of 150 per cent; but this was due primarily to the low level of production in 1945. If the comparison is made between 1946 (a more normal year) and 1956, the increase achieved was 47 per cent.

This section leads to several conclusions which must be borne in mind in interpreting Panama's economic development since the war. Firstly, Panama's industrial development had barely begun in 1945, and the then existing industry had developed mainly as a result of the inflated demand from the Canal Zone and of the restrictions which war conditions imposed on imports.

Secondly, after the war the development of industrial production was directed mainly to the satisfaction of internal demand, and specifically to the import substitution of processed foodstuffs and construction materials. Lastly, emphasis must be laid on the importance of the development of new industries. These even made some contribution to exports, one which, though small and irregular, holds out interesting possibilities for the future. In this connexion, it should be added that the series presented do not include certain very recently established industries such as cigarette production, which began in 1954, and ship-building (mainly fishing boats), which started in 1956 and constitutes the first important capital goods industry.

/(c) Construction

c) Construction

The gross product of construction reached very high levels during 1945-47, with an annual average of 12.5 million balboas (see table B-10). In the following years, it declined by almost 25 per cent, and between 1949 and 1951 reached a minimum of barely more than 9 million balboas. In the final years of the period construction activity recovered slightly, but it was not until 1954 and the following years that it climbed back to its original levels. The average for the three final years (13.3 million balboas) was barely 6.4 per cent above the mean for 1945-47.

This lack of dynamic growth in the sector which represents the largest share of gross investment was largely due to its high starting level and its relatively moderate contraction during the depression years. As will be remembered, throughout nearly the entire period between 1945 and 1952 construction represented more than 60 per cent of gross capital formation, a proportion which fell only in the subsequent years when investments in machinery and equipment were intensified. This is particularly true of construction for the public sector. Heavy Government investment in highways, buildings, and other construction during the years 1945-47 did a great deal to produce an abnormal level of activity in the sector, at least during those years (see figure I-16). Private construction although relatively low in 1945, started to rise very rapidly thereafter, and in 1947 achieved a maximum which it did not repeat until 1954. As public investment had not yet begun its later sharp contraction, 1947 was the year of maximum activity in the construction sector. Only in 1955 and 1956 were similar levels registered.

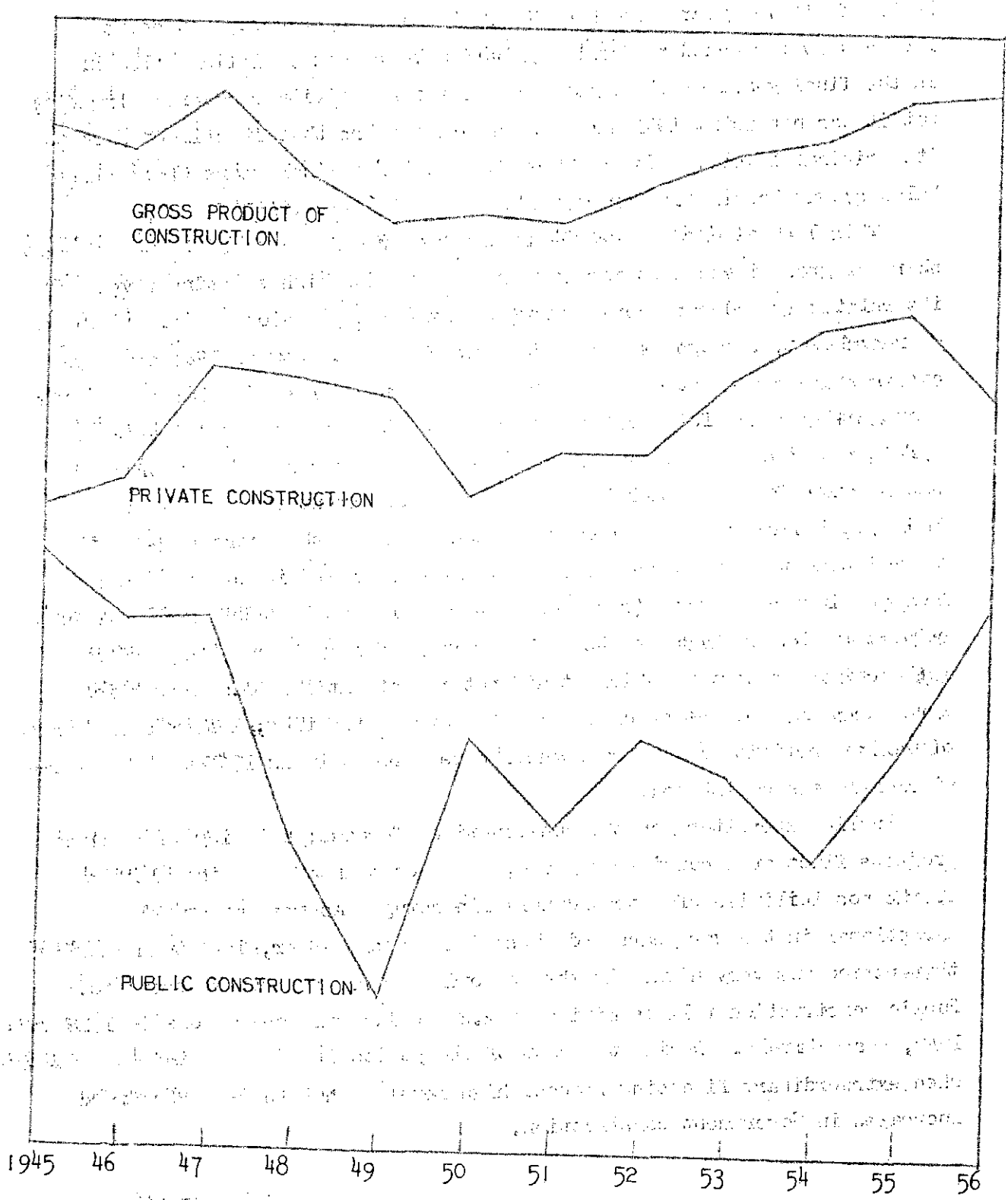
Public expenditure on the construction of roads, buildings and other projects fluctuated considerably and, has been pointed out, in relation to the possibilities of extraordinary financing. As the latter were exceptional in the war years and those immediately after, investment during that period was very high. In the following years the reverse occurred. Public construction fell to minima of 2.8 and 1.8 million balboas in 1948 and 1949, respectively. During the rest of the period it was only in 1950 and 195 when extraordinary financing reached high levels, that there were marked increases in Government construction.

/Figure I-16

FIGURE I - 16

PANAMA : GROSS PRODUCT OF CONSTRUCTION SECTOR, TOTAL, PUBLIC AND PRIVATE

SEMI-LOGARITHMIC SCALE




/Private construction

Private construction - in which building is very important - began to grow very rapidly between 1945 and 1947, mainly as a result of the fact that during the preceding years large funds had been accumulated for this purpose but had not been used because of the restrictions placed on imports of construction materials. Apart from the fact that funds and materials now became avilable, construction needs had been created during the war because of the pent-up demand for the replacement of buildings and dwellings, the increase in the urban population and the higher income levels.

Table B-9 shows the high levels of consumption of such building materials as cement, timber, structural iron and tubing and accessories of varios types and uses which prevailed in the immediate post-war years, when the accumulated needs of the preceding years began to be satisfied.

It was not only in house-building that these stimuli operated and that the necessary funds were available. The industrial sector, also participated in the intense construction activity. As has been pointed out, it was precisely between 1945 and 1950 that many new industries were established. This also explains why private consumption did not appreciably contract until 1950 and failed to reflect the impact of the decline registered in the previous years in the demand from the Zone and from transit and tourist activities. It should be remembered more over that the export sector which serves this external demand is not highly capitalized and does not require heavy investment in construction or equipment. On the contrary, it largely consists of personal services. Thus, the effect of the decline in this sector on private investment was bound to be less than if the demand in question bore mainly on industrial and agricultural products and on basic power and transport services.

There is still another factor which explains the relatively modest contraction in private construction during the crisis years. It has already been stated that opportunities for productive investment are not very abundant in Panama, failing the concurrence of factors like tariff protection, credit facilities, changes in relative prices etc. Nor have Panamanian investors traditionally been inclined to make investments involving a normal element of risk. As a result, accumulated funds were transformed into domestic and foreign assets or were invested in private and commercial

/building. The

building. The country's credit system, particularly the State system, also helped to encourage this type of investment.

(d) Electric power, gas and water

The traditional public services expanded very rapidly between 1945 and 1956. In the first year, the gross product of this sector was barely 2.8 million balboas, but by the last year it had reached a figure of 5.5 millions. Thus, the initial figure was almost doubled, and the annual rate of increase for the period was 6.3 per cent.

However, the development of the sector as a whole conceals considerable differences between the trends of its main components. Table B-12 shows that electric power and water, especially the former, grew very rapidly while gas declined in absolute terms (see figure I-17). Electric power generation rose from 54 million kWh in 1945 to 131 million kWh in 1956, an increase of 146.8 per cent for the period, with an annual rate of increase of 8.6 per cent. In the case of water, the increase was 70.6 per cent for the period, or an annual rate of 4.9 per cent. The production of gas, on the other hand, suffered a contraction of 24.7 per cent between 1945 and 1956.

The gross product of the drinking water services is of course the smallest of the three public services. Furthermore, the major portions relates to drinking water consumption in the cities of Panama and Colón, whose needs are met by water imports from the Canal Zone. Consequently, the value added of this branch is confined almost exclusively to the distribution of drinking water in the two main cities of Panama.

One of Panama's oldest industries is the plant producing gas from crude petroleum which was installed towards the end of the 20's in the city of Colon. This plant has supplied both the Canal Zone and the cities of Panama and Colón. At the end of the Second World War, consumption in the Canal Zone far exceeded that in the two main cities of the Republic. In 1949, consumption in the Zone, which had already fallen considerably, still amounted to 377.4 million cubic feet, while the other sector of demand represented 359 millions. From 1950 onwards, this position was reversed. These opposing trends having persisted in the following years, consumption in the Canal Zone barely reached 170.6 million cubic feet in 1956, while in Panama City and Colón it had risen to 448.7 million cubic feet (see table I-35). The reduction in gas

/Figure I-17

FIGURE I - 17

PANAMA : PRODUCTION OF ELECTRICITY, GAS AND WATER

SEMI-LOGARITHMIC SCALE

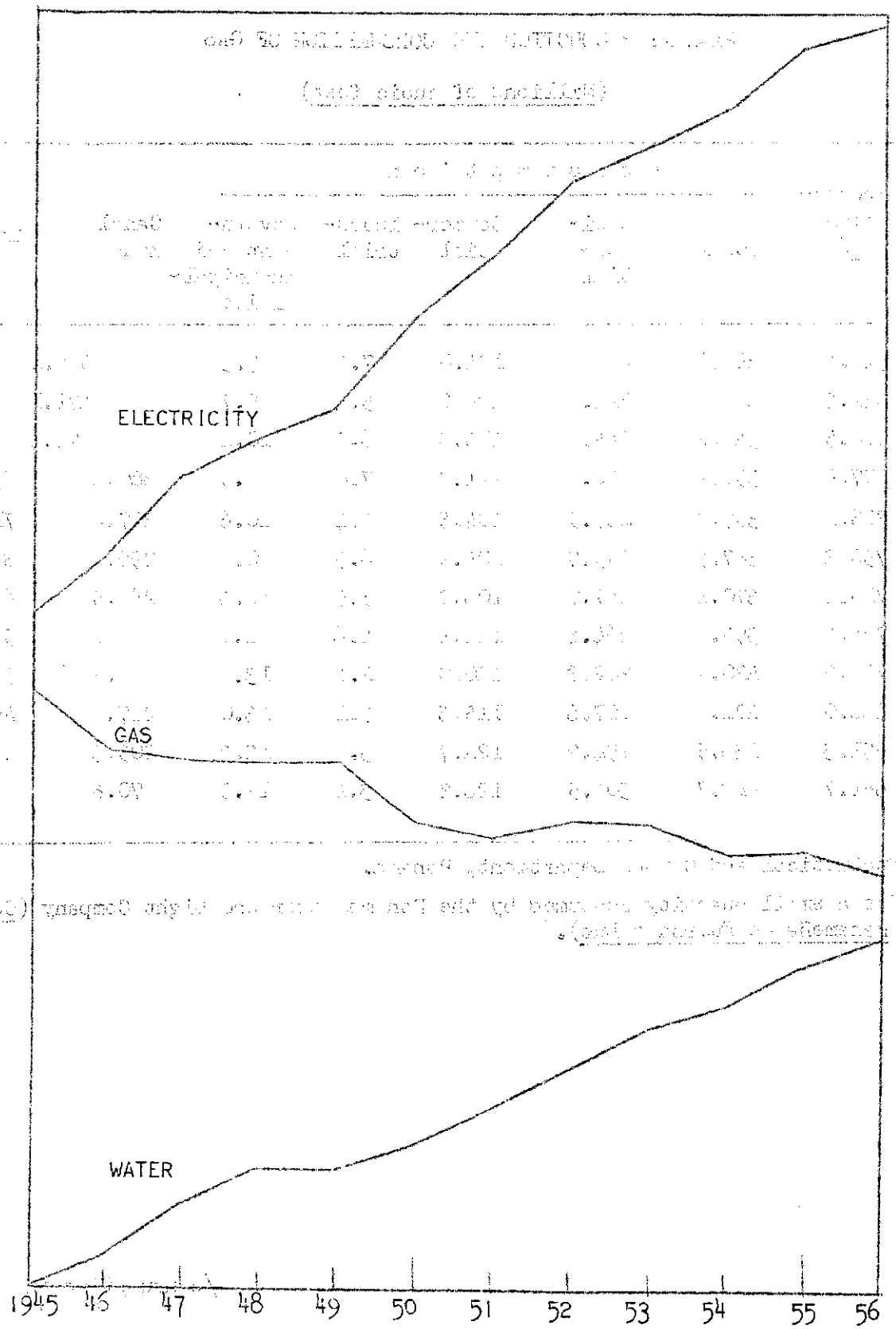


Table I-35

PANAMA: PRODUCTION AND CONSUMPTION OF GAS

(Millions of cubic feet)

| Year | Production a/ | Consumption | | | | | | Losses |
|---|---|---|---|---|---|---|---|---|
| | | Total | Residential | Commercial | Industrial | Government and municipalities | Canal Zone | |
| 1945 | 914.1 | 345.0 | 204.4 | 124.0 | 7.3 | 9.3 | 569.1 | |
| 1946 | 831.3 | 360.2 | 216.5 | 128.2 | 5.8 | 9.7 | 471.1 | |
| 1947 | 818.5 | 346.4 | 214.0 | 115.8 | 6.5 | 10.1 | 472.1 | |
| 1948 | 807.4 | 350.1 | 220.8 | 111.7 | 7.4 | 9.9 | 384.6 | 73.0 |
| 1949 | 808.1 | 359.0 | 237.5 | 104.5 | 6.4 | 10.6 | 377.4 | 71.8 |
| 1950 | 750.3 | 367.5 | 245.9 | 104.9 | 6.3 | 10.4 | 299.8 | 83.0 |
| 1951 | 715.6 | 370.1 | 247.7 | 106.2 | 5.9 | 10.3 | 282.8 | 62.8 |
| 1952 | 724.6 | 395.0 | 264.6 | 114.1 | 4.6 | 11.7 | 276.8 | 52.6 |
| 1953 | 719.9 | 420.4 | 282.8 | 120.0 | 4.4 | 13.2 | 246.7 | 52.9 |
| 1954 | 683.0 | 421.2 | 287.6 | 115.5 | 5.1 | 13.0 | 217.2 | 49.6 |
| 1955 | 691.3 | 436.5 | 294.9 | 124.7 | 3.6 | 13.3 | 205.3 | 49.5 |
| 1956 | 661.7 | 448.7 | 306.5 | 126.3 | 3.4 | 12.5 | 170.6 | 42.5 |

Source: Statistical and Census Department, Panama.

a/ Includes a small quantity consumed by the Panama Power and Light Company (Compañía Panameña de Fuerza y Luz).

/consumption in

consumption in the Canal Zone continued and even been intensified in the later years of the period. Apparently, gas consumption will be completely eliminated in the near future, a programme having been launched to replace this type of energy by electricity or bottled gas.

In view of the large share of the Canal Zone in gas consumption and of the size of the contraction in the Zone's consumption, the curve of total gas production also shows a definite declining trend. Nevertheless, the demand for this form of energy has been slowly but steadily rising in Panama City and Colón. Between 1945 and 1956, this increase amounted to 30 per cent for demand as a whole; but the different types of consumption have shown dissimilar trends. The main sector of demand - residential consumption - is actually the only one which has risen substantially. Between the extremes of the period, it increased from 204.4 to 306.5 million cubic feet, a rise of almost 50 per cent. Commercial consumption, which comes next in importance, shows a practically similar demand in the first and last years of the period and a marked contraction in the intervening years. Industrial consumption and consumption by the Government and municipalities represent, combined, a very small proportion of total consumption. Thus, while the former contracted to less than half its initial volume and the latter rose from 9.2 to 12.5 million cubic feet between 1945 and 1956, their influence on the demand for this type of energy was practically insignificant.

As will be seen below, even in the sector of demand which increased most intensively - residential consumption - gas was being replaced by other forms of power, particularly electricity and bottled gas. Although the relative prices of the different forms of energy affected this process, the smallness of the increase in the demand for gas was due to the fact that the distribution networks cover a specific part of the urban area, while the development of the new residential areas, especially in Panama City, has been taking place mostly in the suburbs. Furthermore, although the market served by the distribution networks can in no way be considered saturated, the cost of connexions and the income level of the population living in the areas in question have precluded a substantial increase in consumption.

In contrast with gas output, the electricity power production increased

very rapidly during the period 1945-56. Although complete figures for installed capacity, output and consumption are not available for the period as a whole, the statistics relating to the main electricity concern, which in the last years of the period generated about 80 per cent of Panama's total electric power supply, show a substantial increase in the items just mentioned and a very marked rise in the various sectors of demand. Table I-36 indicates that the output of this concern, which covers nearly the whole consumption of the two main cities, rose from 53.4 million kWh in 1945 to 124.1 million kWh in 1956. The increase was thus 132.3 per cent, but the increase in consumption was slightly greater, because of a decline in the percentage of losses and own uses.

Through out the period, the main consumption sectors were commercial and residential demand. In 1956, the former represented more than 40 per cent of total consumption, while the latter slightly exceeded 30 per cent. Industrial consumption in that year amounted to almost 18 per cent of total consumption, and consumption by the Government and the municipalities exceeded 9 per cent. The growth of each one of these segments of demand was very different. While commercial consumption and consumption in the public sector practically trebled between 1945 and 1956, residential demand rose by 117.6 per cent and industrial consumption by barely 65.1 per cent. But it should be pointed out that industrial demand remained practically stationary over the first six years of the period, while between 1951 and 1956 it rose from 11.6 million to 18 million kWh. This great increase during the last six years of the period represents an annual rate of increase of more than 9 per cent.

However, the electricity consumption series for industry is the least representative of all. This is partly because some of the industries which have developed most during the period are not located in the terminal cities but in the rural districts from which they obtain their raw materials. Furthermore, large industrial concerns, such as the cement factory, possess their own generating plant.

As may be noted from table I-37, data on installed capacity and output are available for the country as a whole from 1953 on. Comparison of these figures immediately reveals the very low level of plant utilization. In the

/Table I-36

Table I-36

PANAMA: PRODUCTION AND CONSUMPTION OF ELECTRIC POWER a/
(Millions of kWh)

| Year | Production b/ | Consumption | | | | | Losses and own uses |
|---|---|---|---|---|---|---|---|
| | | Total | Residential | Commercial | Industrial | Government and municipalities | |
| 1945 | 53.4 | 43.1 | 14.2 | 14.5 | 10.9 | 3.5 | 10.3 |
| 1946 | 61.4 | 46.3 | 15.5 | 16.1 | 11.3 | 3.4 | 15.1 |
| 1947 | 69.4 | 51.6 | 16.7 | 18.4 | 12.1 | 4.4 | 17.8 |
| 1948 | 69.7 | 54.9 | 17.7 | 20.1 | 12.2 | 4.9 | 14.7 |
| 1949 | 79.9 | 56.7 | 18.2 | 21.4 | 11.3 | 5.8 | 23.2 |
| 1950 | 85.7 | 58.8 | 18.8 | 23.0 | 11.0 | 6.0 | 26.9 |
| 1951 | 89.2 | 64.7 | 20.3 | 26.6 | 11.6 | 6.2 | 24.5 |
| 1952 | 95.7 | 74.3 | 22.3 | 30.9 | 15.0 | 6.0 | 21.4 |
| 1953 | 101.0 | 80.7 | 24.2 | 34.9 | 15.8 | 6.0 | 20.3 |
| 1954 | 105.9 | 84.9 | 25.9 | 36.0 | 16.1 | 7.0 | 20.9 |
| 1955 | 113.7 | 92.9 | 28.0 | 39.3 | 17.2 | 8.3 | 20.8 |
| 1956 | 124.1 | 101.7 | 30.9 | 42.9 | 18.0 | 9.8 | 22.5 |

Source: Statistical and Census Department, Panama.

a/ Panama Power and Light Company.

b/ Includes small quantities of electricity bought from the Canal Zone.

Table I-37

PANAMA: INSTALLED CAPACITY, OUTPUT AND UTILIZATION OF ELECTRIC POWER STATIONS

| Year | Capacity (kW) | Output (thousands of kWh) | Utilization | |
|---|---|---|---|---|
| | | | Hours per year | Percentages |
| 1953 | 35 206 | 127 467 | 2 762 | 31.5 |
| 1954 | 38 223 | 134 570 | 2 840 | 32.4 |
| 1955 | 38 223 | 144 123 | 2 652 | 30.3 |
| 1956 | 39 201 | 153 825 | 2 548 | 29.1 |

Source: Statistical and Census Department, Panama.

four years for which data are available, installed capacity has been used at best to the extent of 32.4 per cent and at worst to the extent of 29.1 per cent. The smallness of these figures will be the more readily appreciated when it is remembered that the bulk of the installed capacity consists of thermo-electric plant.

The reason for this low utilization of generating capacity are not difficult to find; and they in fact reflect the precarious situation of this basic sector of Panama's economy. The first important point is that the plants are generally very small. In 1956, there were 125 generating plants in Panama, with a total installed capacity of 39 200 kW. Excluding from this total the 13 units serving Panama City and Colón, which have a combined installed capacity of 29 700 kW, there remains for the rest of the country a total of 112 stations with a capacity of 9 500 kW. Hence, the average size of 90 per cent of Panama's electric power stations is barely 85 kW.[38/]

Of the larger scale plants installed in Panama City and Colón, which are operated by the biggest electricity company in the country, two (in the former city) are more than 42 years old, and a third more than 29 years old. The generating units of the plant operating in Colón are all more than 27 years old. Naturally, the equipment is incapable of sustaining heavy loads for prolonged periods.[39/]

In addition, many of the small plants in the interior work only six hours a day; the distribution networks, including those in the centre of Panama City, are of inadequate capacity or are obsolete and unsuitable; the maintenance and operation of the plants (especially the smaller ones) are generally deficient and lead to frequent stoppages; hydroelectric stations represent a very small proportion of the installed capacity; and, lastly, apart from the area around the town of David in the province of Chiriquí there is no inter-connexion between the various grids.[40/]

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38/ Statistical and Census Department, Panama.

39/ Harza Engineering Company International, Power Market Survey and Alternative Sources of Power and the Republic of Panama (Servicio Cooperativo Interamericano de Fomento Económico), Panama, 1957. pp. III-5 and III-6.

40/ Op. cit., pp. III-2, III-3 and III-5.

It may therefore be seen that the installed capacity is distributed in highly unequal fashion throughout the country. Naturally, the highest per capita installed capacity is to be found in the more urban provinces of Panama and Colón, the figures for 1956 being more than 70 walls per person, as may be seen from table I-38. This figure is practically treble that for the province of Chiriquí, although this is the most highly developed and modern agricultural region in Panama. The coefficient of 24 watts per person for this province is in turn double the respective coefficients for the provinces of Coclé, Darién and Herrera, and exceeds the per capita installed capacity in the provinces of Bocas del Toro and Veraguas by even greater amounts.

In contrast with the trends observed in many Latin America countries since the war, the public sector has played a very minor rôle in the generation of electric power in Panama. In the last four years of the period, State-owned plants have represented barely 4 per cent of total installed capacity. In 1956, there were 43 plants of this type, with a total installed capacity of 1 547.5 kW, i.e. an average size of barely 36 kW (see table I-39).

In this state of affairs some part is probably played by the lack of development of hydroelectric energy in Panama. Although accurate figures are not available, the only hydroelectric stations of importance are in the province of Chiriquí, and these have an installed capacity of some 6 000 kW, or 15 per cent of total installed capacity in 1956. In the Latin American countries where the public sector has played a major rôle in the expansion of generating capacity, the share of hydroelectric plants in total installed capacity is often 50 per cent or more. This is true, for example, of the countries listed in table I-40. The data given in this table show that Panama is by no means in a specially unfavourable situation as regards potential hydroelectric resources. Its hydroelectric potential was reckoned in 1954 at 590 watts per capita, a coefficient much higher than those of Brazil, Colombia, El Salvador and Mexico, similar to that of Guatemala, and lower only than those of Chile and Costa Rica.

The foregoing comments, as regards both the development of electric power generation and consumption in the main cities of Panama and the situations of the sector as a whole in recent years, suggest clearly enough

Table I-38

PANAMA: INSTALLED CAPACITY BY PROVINCES AND PER CAPITA

| | Population (thousands) | Installed capacity (kW) | Per capita installed capacity (Watts per capita) |
|---|---|---|---|
| Total | 953.6 | 39 201 | 41.1 |
| Bocas del Toro | 28.6 | 200 | 7.0 |
| Coclé | 85.0 | 1 039 | 12.2 |
| Colón | 102.6 | 7 220 | 70.4 |
| Chiriquí | 161.4 | 3 871 | 24.0 |
| Darién | 16.7 | 220 | 13.2 |
| Herrera | 58.4 | 820 | 14.0 |
| Los Santos | 68.7 | 614 | 8.9 |
| Panama | 310.0 | 24 399 | 78.7 |
| Veraguas | 122.2 | 787 | 6.4 |

Source: Statistical and Census Department, Panama.

/Table I-39

Table I-39

PANAMA: TOTAL INSTALLED CAPACITY IN STATE-OWNED AND PRIVATE PLANTS

(Kilowatts)

| Year | Private plants | State-owned plants | Total |
|---|---|---|---|
| 1953 | 33 866 | 1 340 | 35 206 |
| 1954 | 36 676 | 1 548 | 38 223 |
| 1955 | 36 676 | 1 548 | 38 223 |
| 1956 | 37 653 | 1 548 | 39 201 |

Source: Statistical and Census Department, Panama.

/Table I-40

Table I-40

PANAMA: INSTALLED CAPACITY AND HYDROELECTRIC GENERATING POTENTIAL COMPARED WITH CERTAIN LATIN AMERICAN COUNTRIES

| Country | Installed hydroelectric capacity as a percentage of total generating capacity a/ (Percentage) | Hydroelectric potential per capita b/ (Watts per capita) |
|---|---|---|
| Brazil | 79 | 290 |
| Chile | 56 | 790 |
| Colombia | 65 | 330 |
| Costa Rica | 64 | 1 140 |
| El Salvador | 85 | 110 |
| Guatemala | 67 | 500 |
| Mexico | 48 | 220 |
| Panama | 15 | 590 |

Source: Energy in Latin America (United Nations publication, Sales N°: 1957.II.G.2, November 1957), annexes II and XII; United Nations, El desarrollo eléctrico de Centroamérica (TAA/LAT/9), table 3, p. 11; United Nations, Monthly Bulletin of Statistics.

a/ Data relating to Central American countries are for 1956; those for Mexico and South American countries are for 1955.

b/ Data relate to 1954.

/that there

that there are basic deficiencies in the evolution and structure of this sector. The different factors which have resulted in its low productivity and hence its high costs, together with the unequal distribution of installed capacity in the various regions of the country, have also constituted serious obstacles to the development and modernization of the main productive activities in Panama.

(e) Transport, communications and storage

The gross product of transport, communications and storage rose from 10 million balboas in 1945 to 17 million in 1956 (exactly 70 per cent). However, the increase was not uniform throughout the period. During the first five years, the gross product of the sector remained virtually constant at the initial level. Between 1950 and 1952 it fluctuated between 11.2 and 11.9 million balboas, and only from the following year did it begin to climb steadily (see table B-1). It is of interest to point out that this trend, and particularly the growth over the period under review, approximated to the trend of the goods-producing sectors. In view of the change in Panama's productive structure since the war, this is not surprising, since transport, communications and storage, as also energy, constitute the sectors of the basic social capital whose enlargement is essential for the development of domestic production.

A clearer idea of the development of this sector will be obtained by observing the trend of its main components. Table I-41 shows that the increases in transport and communications were similar during the period (59 and 67 per cent, respectively) whereas storage, because from 1953 it included the Free Zone of Colón, 41/ increased almost 18 times. The reason for the fact that this enormous increase did not exert a greater influence on the growth of the sector as a whole was the overwhelming relative importance of transport. In 1950, the share of transport was 87.0 per cent, that of communications being 12.6 per cent and that of storage barely 0.6 per cent (see table B-3).

The development of transport may usefully be analysed from two points of view: (a) the means of transport (rail, road, air and sea) and (b)

41/ The recent development, future prospects and significance of the Free Zone of Colón are analysed in chapter 1, section II.3.d and chapter III, Section III, 2.

/Table I-41

Table I-41

PANAMA: INDICES OF THE GROSS PRODUCT OF TRANSPORT, COMMUNICATIONS AND STORAGE

(1950 = 100)

| Year | Total | Transport | Communi-cations | Storage |
|---|---|---|---|---|
| 1945 | 84.0 | 84.4 | 82.7 | 84.2 |
| 1946 | 89.1 | 89.9 | 81.4 | 88.9 |
| 1947 | 83.2 | 82.8 | 88.1 | 83.5 |
| 1948 | 85.7 | 84.8 | 88.7 | 85.3 |
| 1949 | 86.6 | 86.4 | 84.6 | 86.2 |
| 1950 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1951 | 94.1 | 92.9 | 104.2 | 94.3 |
| 1952 | 96.6 | 95.8 | 102.7 | 96.7 |
| 1953 | 105.0 | 101.7 | 115.8 | 331.2 |
| 1954 | 119.3 | 111.3 | 128.1 | 1 067.5 |
| 1955 | 114.3 | 104.8 | 129.3 | 1 280.3 |
| 1956 | 142.9 | 134.2 | 138.1 | 1 584.7 |

Source: Table B-13.

/the type

the type of load carried (freight and passengers). The former will be dealt with first. It has already been pointed out that the gross product of the transport sector rose by 59 per cent between 1945 and 1956. Only air transport exceeded this increase, rail, road and sea transport increasing at a somewhat lower rate (see table I-42 and figure I-18).

Rail transport grew by no more than 23.8 per cent over the period as a whole. Its relative importance within the transport sector is very small, since it relates exclusively to the Ferrocarril Nacional de Chiriquí. This is a State-owned railway which joins the city of David (the capital of the province of Chiriquí) with the port of Armuelles, in the district of Barú. Its total length is 120 kilometres, but the trunk line is barely 81 kilometres long. The railway's activity depends closely on the movements of employees and workers of the banana company, which has most of its plantations in this region, and, to a much lesser extent, on freight and passenger traffic from David, the third largest city in the Republic. For this very reason, its operations have been seriously affected by competition from road traffic.[42/] The minor importance of this railway within the transport sector as a whole may be judged from the fact that in 1950 it represented barely 1 per cent of the gross product of transport (see table B-3).

Road transport expanded by 41.3 per cent between 1945 and 1956, its trend clearly reflecting the impact of Panama's general economic situation. In the initial post-war years (1945 and 1946) fairly high levels were attained, but there followed a sharp drop which was maintained until 1949. From 1950 there was a partial recovery, but the greater part of the increase was not achieved until after 1953. Between that year and 1956, the period which coincides with Panama's most vigorous economic development, road transport increased by 48.3 per cent.

In the development of road transport one feature merits brief mention - the extent and composition of the road network (see table I-43). In 1956 Panama possessed less than 2 500 kilometres of highway, an increment of only 43 per cent over 1945. The inadequacy of the road system may be appreciated

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42/ United Nations, Transportation in Latin America (E/CN.12/356-ST/TAA/Ser. c 8) Vol. I, pages 350-351(mimeographed text).

Table I-42

PANAMA: INDICES OF GROSS PRODUCT OF TRANSPORT BY TYPES

(1950 = 100)

| Year | Total | Rail | Road | Sea | Air |
|---|---|---|---|---|---|
| 1945 | 84.4 | 118.4 | 92.9 | 69.5 | 70.0 |
| 1946 | 89.9 | 123.3 | 99.7 | 73.6 | 71.7 |
| 1947 | 82.8 | 101.9 | 82.4 | 75.9 | 94.3 |
| 1948 | 84.8 | 104.9 | 80.5 | 100.1 | 77.8 |
| 1949 | 86.4 | 97.1 | 84.9 | 91.0 | 84.8 |
| 1950 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1951 | 92.9 | 102.9 | 86.9 | 94.2 | 115.6 |
| 1952 | 95.8 | 101.9 | 91.7 | 81.8 | 135.1 |
| 1953 | 101.7 | 103.9 | 88.5 | 115.1 | 136.7 |
| 1954 | 111.3 | 120.4 | 102.8 | 110.4 | 147.7 |
| 1955 | 104.8 | 137.9 | 109.3 | 52.2 | 166.2 |
| 1956 | 134.2 | 146.6 | 131.3 | 107.8 | 187.5 |

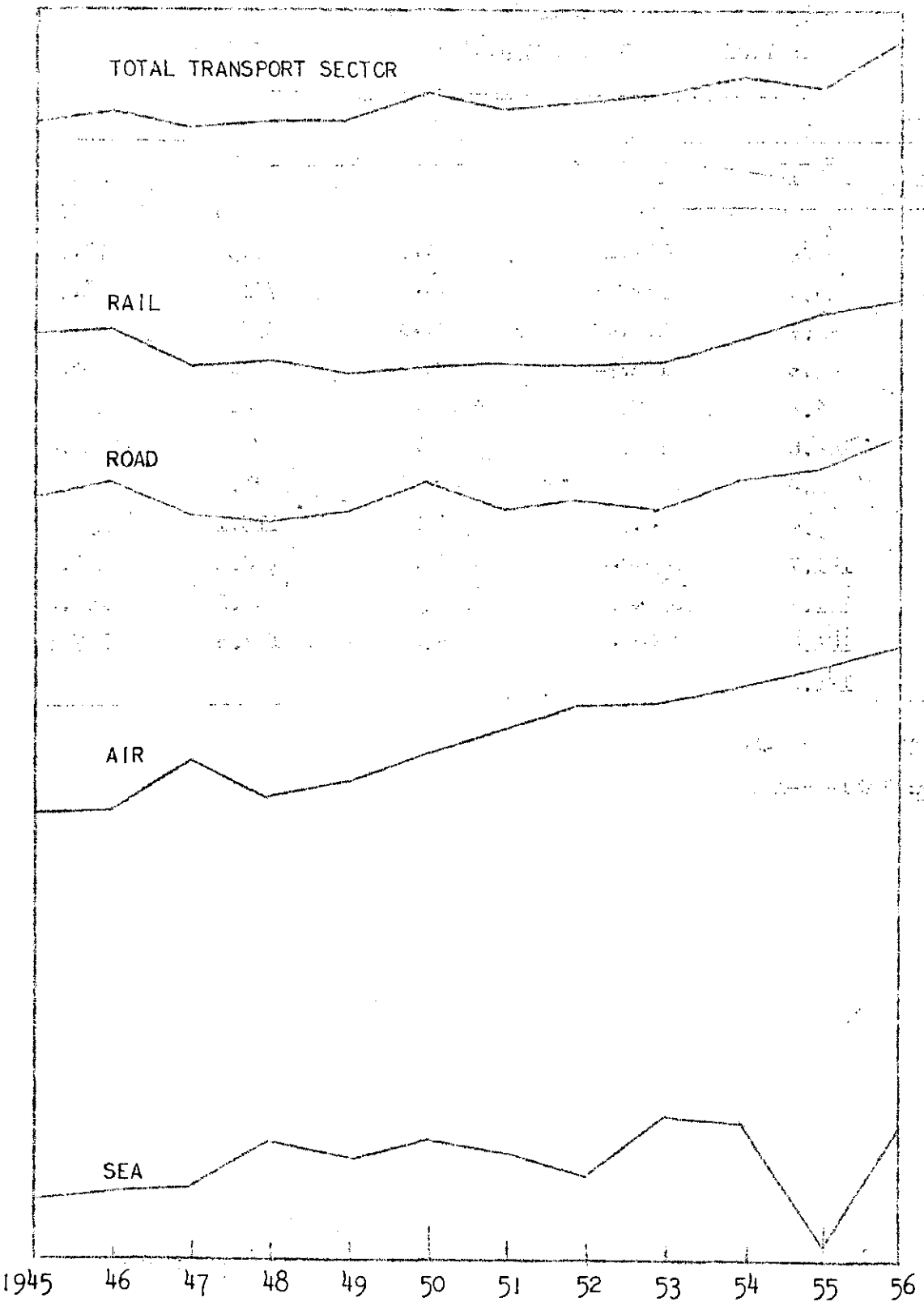
Source: Table B-13.

/Figure I-18

FIGURE I - 18

PANAMA : INDICES OF THE GROSS PRODUCT OF TRANSPORT
TOTAL, RAIL, ROAD, AIR AND SEA

SEMI-LOGARITHMIC SCALE




/Table I-43

Table I-43

PANAMA: LENGTH OF EXISTING ROADS BY TYPES OF SURFACE

(Kilometres)

| Year | Total | Concrete | Macadam | Gravel | Dirt |
|---|---|---|---|---|---|
| 1945 | 1 735.4 | 205.6 | 316.4 | 578.9 | 634.5 |
| 1946 | 1 787.9 | 217.4 | 356.6 | 569.8 | 644.1 |
| 1947 | 1 787.0 | 220.1 | 353.9 | 600.5 | 612.5 |
| 1948 | 1 774.5 | 222.6 | 382.9 | 712.2 | 456.8 |
| 1949 | 2 193.0 | 222.6 | 455.8 | 731.4 | 783.2 |
| 1950 | 2 234.0 | 222.6 | 437.8 | 712.4 | 861.2 |
| 1951 | 2 307.5 | 222.6 | 464.6 | 694.1 | 926.2 |
| 1952 | 2 301.5 | 231.5 | 455.7 | 677.1 | 937.2 |
| 1953 | 2 263.3 | 236.1 | 404.0 | 701.7 | 921.5 |
| 1954 | 2 274.8 | 261.6 | 404.0 | 687.7 | 921.5 |
| 1955 | 2 274.8 | 294.3 | 390.6 | 793.9 | 796.0 |
| 1956 a/ | 2 481.7 | 261.6 | 210.2 | 624.5 | 1 385.4 |

Source: Ministry of Public Works: Roads, Airports and Docks Committee (Comisión de Caminos, Aeropuertos y Muelles).

a/ Because of the size of Panama City, the roads included within its boundaries were considered from this year on as streets, and are excluded from the table.

/more clearly

more clearly if it is compared with the population and the area of the country. This comparison gives for 1956 a length of only 3 metres of road per capita and only 31 metres of road per million square metres of area. As regards the surface material of the road network, it will be seen that in 1956 there were 1 385 kilometres of dirt roads. Consequently, more than half of the road system is impassable to motor vehicles for a good part of the year. This is yet another example of the deficiencies in Panama's economic infrastructure and of the resulting obstacles to both output and productivity. These particularly affect agriculture, and help to explain the fact that in 1950 only 8 per cent of farms used lorries to send their products to market.43/

The development of sea transport, which in 1950 represented some 20 per cent of the gross product of transport, was more rapid than that of the forms of transport already dealt with. Between 1945 and 1956 it grew by 55.1 per cent. However, the trend of the curve of sea transport was somewhat different. Rail and road transport generally reflect the fluctuations in the country's economic activity, but sea transport does not. On the contrary, 1945 and 1947 are the lowest years of the series, and this level is superceded by a higher but stationary level from 1948 on. Subsequently, a maximum is reached in 1953, and from then on the curve declines. In this last part of the period, apparently, the substitution of sea transport by the other forms of transport was intensified. It has already been stated that it was from this same year that a marked increase took place in road and rail transport (see again figure I-18).

The most dynamic development within the sector under review is to be found in air transport, which increased 2.7 times between 1945 and 1956. This of course is part of a general post-war phenomenon, but in the case of Panama certain very important special factors should be mentioned: (a) the creation in 1947 of a national airline; (b) the existence of a network of airports built by the United States during the Second World War; (c) the construction and inauguration of Tocumén Airport, and (d) the fact that there are many important parts of the national territory which are

43/ Statistical and Census Department, Censos Nacionales de 1950: Primer Censo Agropecuario, Panama, 1954.

still relatively inaccessible by conventional means of transport.

It will be useful lastly to give some attention to the development of the transport sector from the standpoint of use - i.e. by passenger and freight carriage. These two branches of the transport sector showed radically different trends between 1945 and 1956, and their growth curves throughout the period were also different (see table I-44 and figure I-19). The passenger transport curve reflects the characteristic trend of Panama's economy in general - a high initial level, then a marked contraction, and finally recovery followed by a period of fairly dynamic growth. The freight curve is very different: its starting level is relatively low, and its subsequent rise, although interrupted by sharp annual fluctuations, corresponds rather to the trend of industrial and agricultural output.

The development of passenger transport (a final consumer service) is clearly influenced by personal incomes and car import possibilities. That is why its initial level was very high and its growth throughout the period only 49 per cent. On the other hand, freight transport, being an intermediate service and hence closely related to goods-producing activities, increased by almost 90 per cent. Inevitably, therefore, it reflected the change in Panama's economic policy which took place after the war.

(f) Other sectors of the gross product

The sectors of the gross product which have been analysed relate to the group of activities in which the production of goods and of basic services contributing directly to goods production are concentrated. The remaining activities - trade, financial services, housing, public administration, public and private services and the sale of services to the Canal Zone, constitute, on the other hand, a group of services related only indirectly to the production of goods. Their development has been analysed in broad terms in a former section, emphasis being placed on the relative slowness of the growth of most of them and on the fact that they nearly all reflect the influence of the contraction

/Table I-44

Table I-44

INDICES OF THE GROSS PRODUCT OF PASSENGER AND FREIGHT TRANSPORT

(1950 = 100)

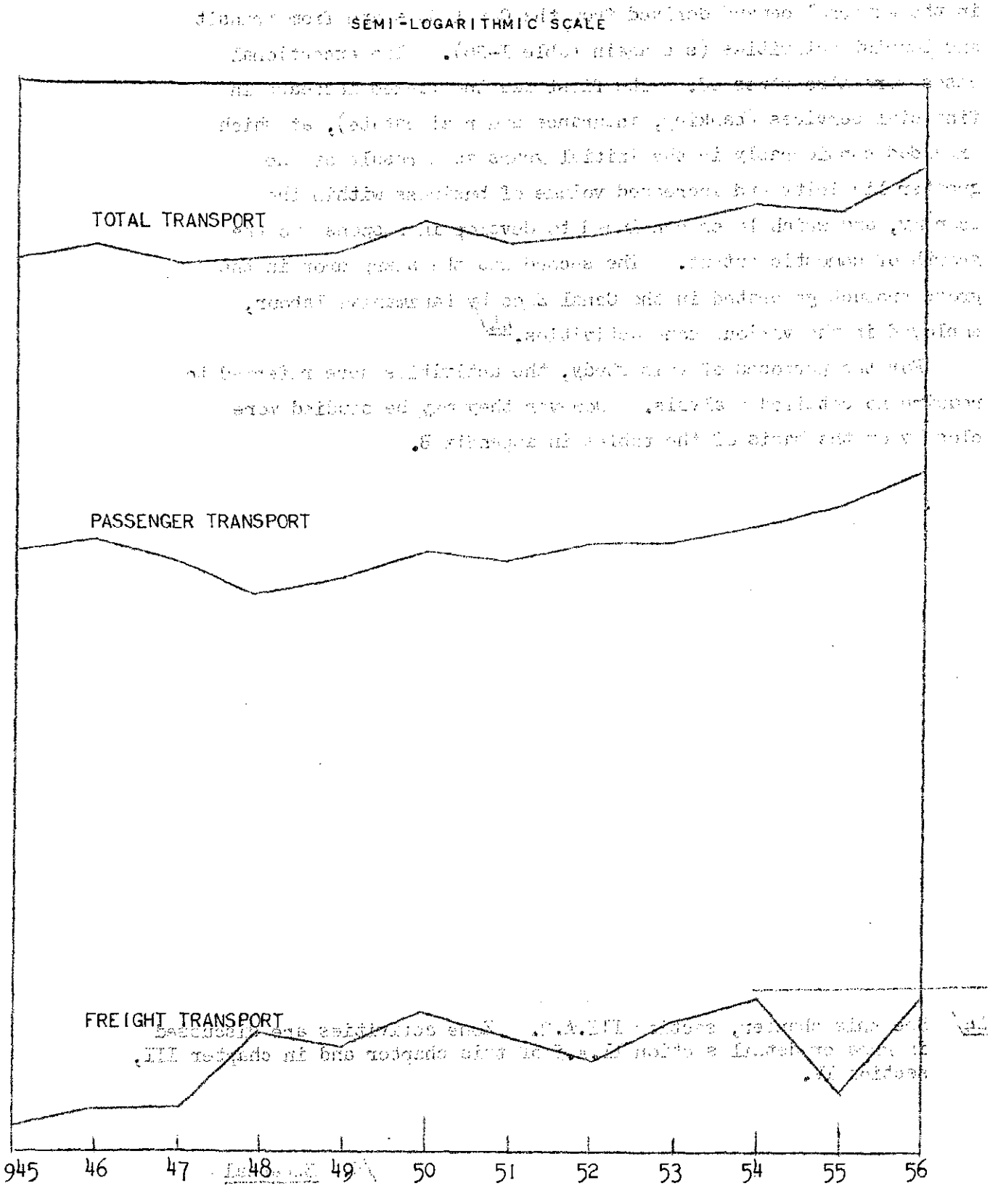
| Year | Index for passenger transport | Index for freight transport | Index of gross product of transport |
|---|---|---|---|
| 1945 | 99.4 | 57.5 | 84.4 |
| 1946 | 105.3 | 62.1 | 89.9 |
| 1947 | 94.1 | 62.5 | 82.8 |
| 1948 | 81.0 | 91.8 | 84.8 |
| 1949 | 87.4 | 84.5 | 86.4 |
| 1950 | 100.0 | 100.0 | 100.0 |
| 1951 | 95.0 | 89.0 | 92.9 |
| 1952 | 104.5 | 80.2 | 95.8 |
| 1953 | 104.2 | 97.3 | 101.7 |
| 1954 | 112.8 | 108.4 | 111.3 |
| 1955 | 124.7 | 69.0 | 104.8 |
| 1956 | 148.1 | 109.2 | 134.2 |

Source: Table B-13.

/Figure I-19

FIGURE I - 19

PANAMA : GROSS PRODUCT OF PASSENGER AND FREIGHT TRANSPORT




/in the

in the external demand derived from the Canal Zone and from transit and tourist activities (see again table I-26). Two exceptional cases were also stressed. The first was the marked increase in financial services (banking, insurance and real estate), at which expanded considerably in the initial years as a result of the greater liquidity and increased volume of business within the economy, and which later continued to develop in response to the growth of domestic output. The second was the sharp drop in the gross product generated in the Canal Zone by Panamanian labour, employed in the various zone activities.44/

For the purposes of this study, the activities here referred to require no detailed analysis. However they may be studied more closely on the basis of the tables in appendix B.

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44/ See this chapter, section III.A.2. Zone activities are discussed in greater detail section II.A.5 of this chapter and in chapter III, section IV.

5. External supply: trend of imports

(a) General trends

It has already been stated that during the period 1945-56 total imports registered an increase of 20 per cent. This was slightly less than the rise in the gross product; moreover, imports grew throughout the period at a much lower rate than the population. While in 1945 the per capita volume of imports amounted to 123 balboas, in 1946 and 1947, when imports were running at a high level, it rose to 142 balboas. By contrast, during the last years of the period the figure had fallen to 109 balboas.

After the war, the imports curve followed a trend remarkably similar to that of the gross product (see again figure I-12); as much so that the share of total imports in aggregate supply fluctuated very little during the period, representing between 24.5 and 23.0 of the latter. The only exceptions were the years 1946 and 1947, when it rose to almost 28 per cent (see again table I-25). The explanation lies in the high level of imports which was common to all the Latin American countries during these years as a result of the removal of export restrictions in the United States, the return to normal of international sea transport and the demand which had accumulated in the importing countries during the war.

The latter phenomenon explains precisely why, between 1945 and 1956, imports went up by 20 per cent although the capacity to import declined by 30.6 per cent. As is well known, the capacity to import registered very high levels in the first years after the war, even though it had already begun to decline from the figures attained in the previous years. During the latter years, there had been severe restrictions on imports, so that international reserves were accumulated in large quantities up to 1945.[45] In the next two years, imports reached their peak while the capacity to import contracted sharply and the trade balance showed a heavy deficit (see figure I-20).

45/ In this year, Panama's net international reserves amounted to 65.8 million balboas, more than three times their subsequent normal level. See Statistical and Census Department, Balanza de Pagos: Años 1946-54, Informes especiales, Vol.3, N° 1, Panama, 1956, p.61, table 14.

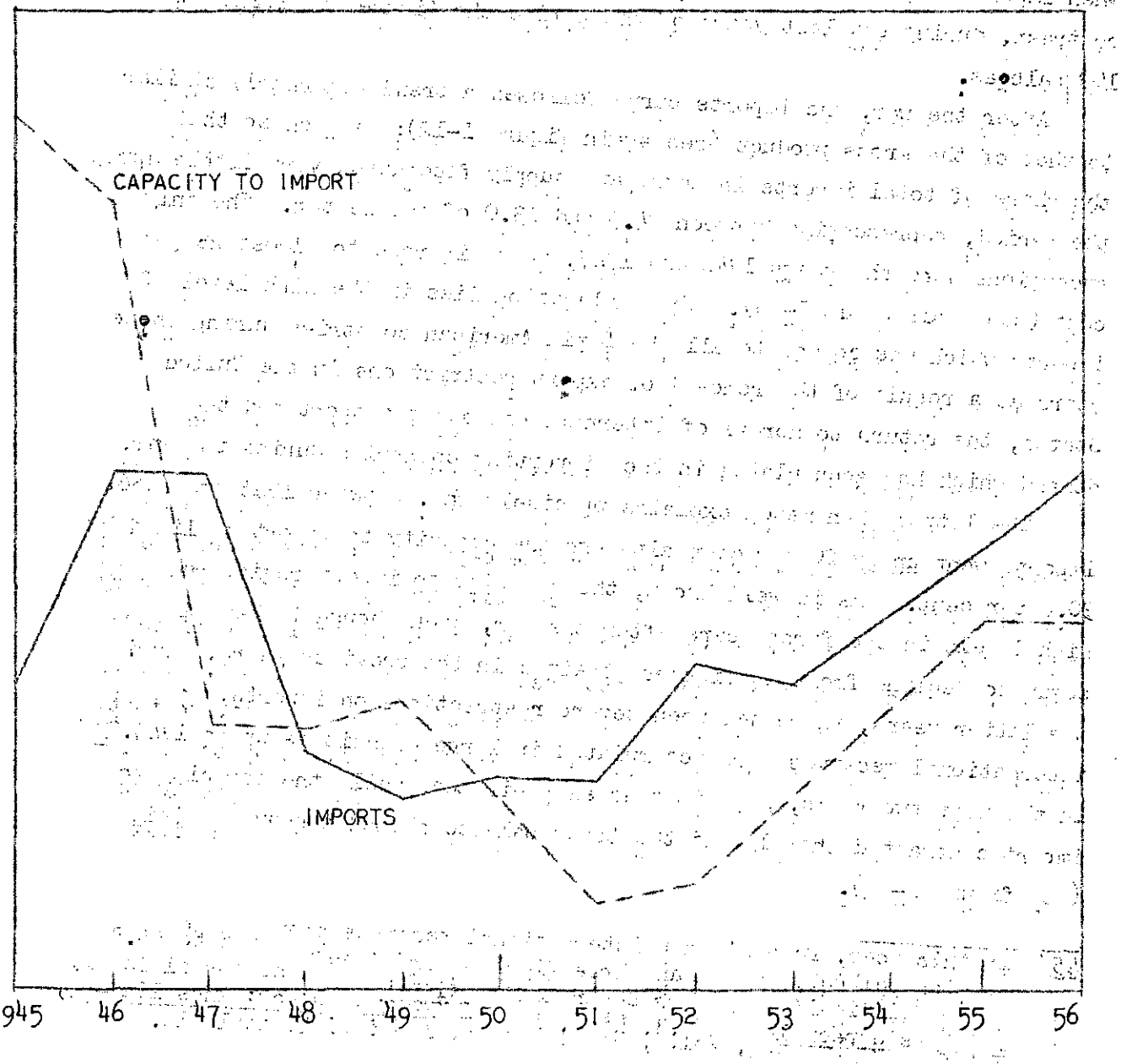
/Figure I-20

FIGURE 1 - 20

PANAMA : CAPACITY TO IMPORT AND IMPORTS

(MILLIONS OF BALBOAS AT 1950 PRICES)

NATURAL SCALE




/Consequently, the

Consequently, the apparently contradictory trends in imports and external income were due to the unique situation which prevailed immediately after the war. In the subsequent years - with the exception of 1949 - the trends of both series were similar, although from 1950 on the absolute level of imports began regularly to exceed the capacity to import. Part of this difference was due to the terms-of-trade effect. As will be remembered, the terms of trade took a steadily positive turn after 1953 and constituted the main factor enabling the deficit in the last years of the period to be financed. Other factors which explain the differences between the capacity to import and the import quantum year by year are: (a) the inflow, outflow and service of capital, in both the public and the private sector; (b) grants both private and inter-governmental; (c) certain international movements of funds; (d) income from shipping registrations, fishery permits etc.; and (e) changes in Panama's international assets.

(b) Total imports and purchases in the Canal Zone

Nearly all countries maintain a complete and detailed register of their imports, of whatever origin. As in many other cases already mentioned, Panama is also an exception in this respect. The reason for this omission was the privilege of purchasing goods in commissaries and other establishments enjoyed (up to 31 December 1956) by Panamanian residents working in the Canal Zone. As, accordingly, it has been impossible to obtain information on these purchases (either in the aggregate or in detail), imports from the Zone have had to be estimated indirectly.

On the assumption that these imports constitute a given proportion of the income earned in the Zone by workers resident in Panama, a somewhat rough estimate has been made of the trend and total amount of the series (see table B-21 and figure I-21). Of course, it was in the initial post-war years - while employment in the Zone was still at a high level - that these purchases were biggest. In 1945 and 1946 they exceeded 20 million balboas, and represented about a third of total imports. In the following years, the Panamanian labour force employed in the Canal Zone fell sharply, and with it, purchases in that area. The situation became stabilized from 1949, and since then purchases in the Zone have remained at a level close to 15 per cent of Panama's total imports.

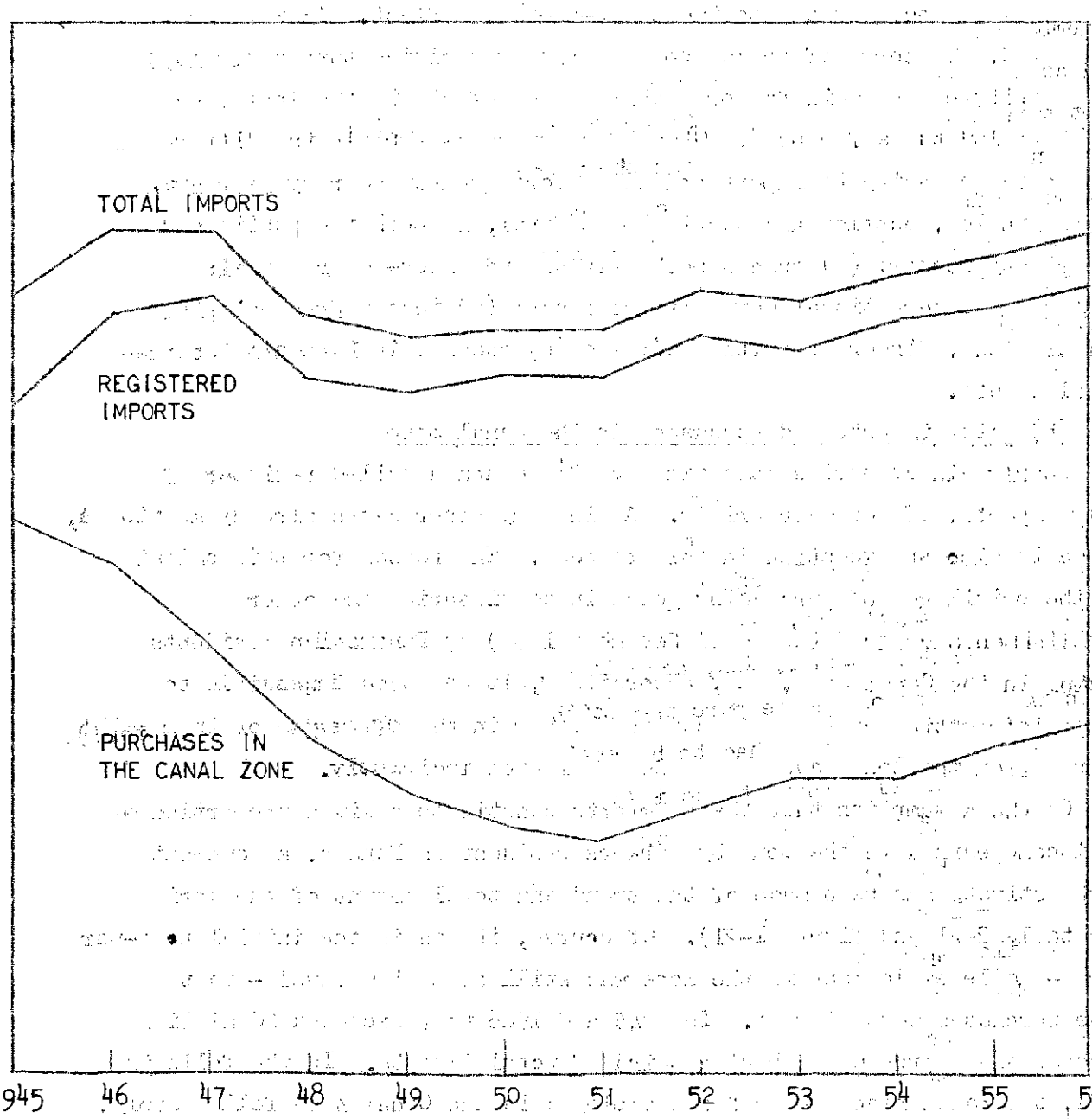
/Figure I-21

FIGURE I - 21

PANAMA : QUANTUM OF TOTAL IMPORTS, OF REGISTERED IMPORTS AND OF PURCHASES IN THE CANAL ZONE

(MILLIONS OF BALBOAS AT 1950 PRICES)

SEMI-LOGARITHMIC SCALE




/The existence

The existence of this type of imports and the lack of more specific information about them restricts the detailed analysis of Panamanian imports to those which originate from other countries. This limitation must be borne in mind particularly as regards the first years of the period, not only because of the relative importance of purchases in the Zone at that time but also because their share in total imports was changing rapidly. Moreover, the paucity of reliable data on their total amount and break-down precludes any proper study of the effects of their abolition on the Panamanian economy from 1957. Residents of Panama working in the Zone used to buy in commissaries and similar establishments a good number of Panamanian and imported products which they must now purchase in Panama. This will bring about an increase in commercial activity in Panama but it also involves two factors whose influence on the economy may be still more profound. These are firstly, the fact that the level of prices in the Zone is lower than in Panama, and secondly, the fact that purchases in the Zone used to include some imported products which are now made in Panama and can no longer be imported from abroad.

For the persons affected by the Canal Zone agreement a higher price level in Panama implies a loss of real income and hence a change in the pattern of their expenditure. It is to be hoped therefore that the proportion of expenditure on imported goods will be reduced.

Furthermore, to the extent that certain items formerly bought in the Zone were imported (sugar, coffee, meat and other goods produced in Panama), imports of these items will disappear, thus helping to augment the internal demand for the Panamanian product.

Detailed data on the purchases made by Panamanians in the Zone would have permitted a more accurate evaluation of the effects of the agreement, so that the necessary measures could be taken to transfer those purchases from the Canal Zone to Panamanian trade in the best possible conditions for domestic consumers and producers. Otherwise, pressure might have resulted on the supply of domestic and imported goods and market stability might have been affected. However, this does not seem to have occurred, perhaps because in 1957 imports expanded considerably on the eve of the application of a new import tariff. It seems probable, therefore, that the net short-term effect has merely been a redistribution of income in favour

of the urban commercial sector to the detriment of Canal Zone workers.

(c) Registered imports

The characteristic development of the total quantum of registered imports, referred to repeatedly in previous paragraphs, is found to a greater or lesser extent in each of the groups of imported goods. As a result, the structure of the quantum of imports categories of products does not vary greatly, or at least shows no definite trend. The exception is imported capital goods and construction materials, which contracted very sharply in the depression years (see figure I-22). Imports of consumer goods, which are by far the most important item, maintained their share of the total practically unchanged. In 1946, this was 59 per cent; at the end of the period, 59.8 per cent (see table I-45). It is true that between 1950 and 1953 the sahre of consumer goods was nearly two thirds of the total; but this relative increase was due more to the drastic contraction in imports of capital goods than to an increase in the absolute level of consumer goods imports.

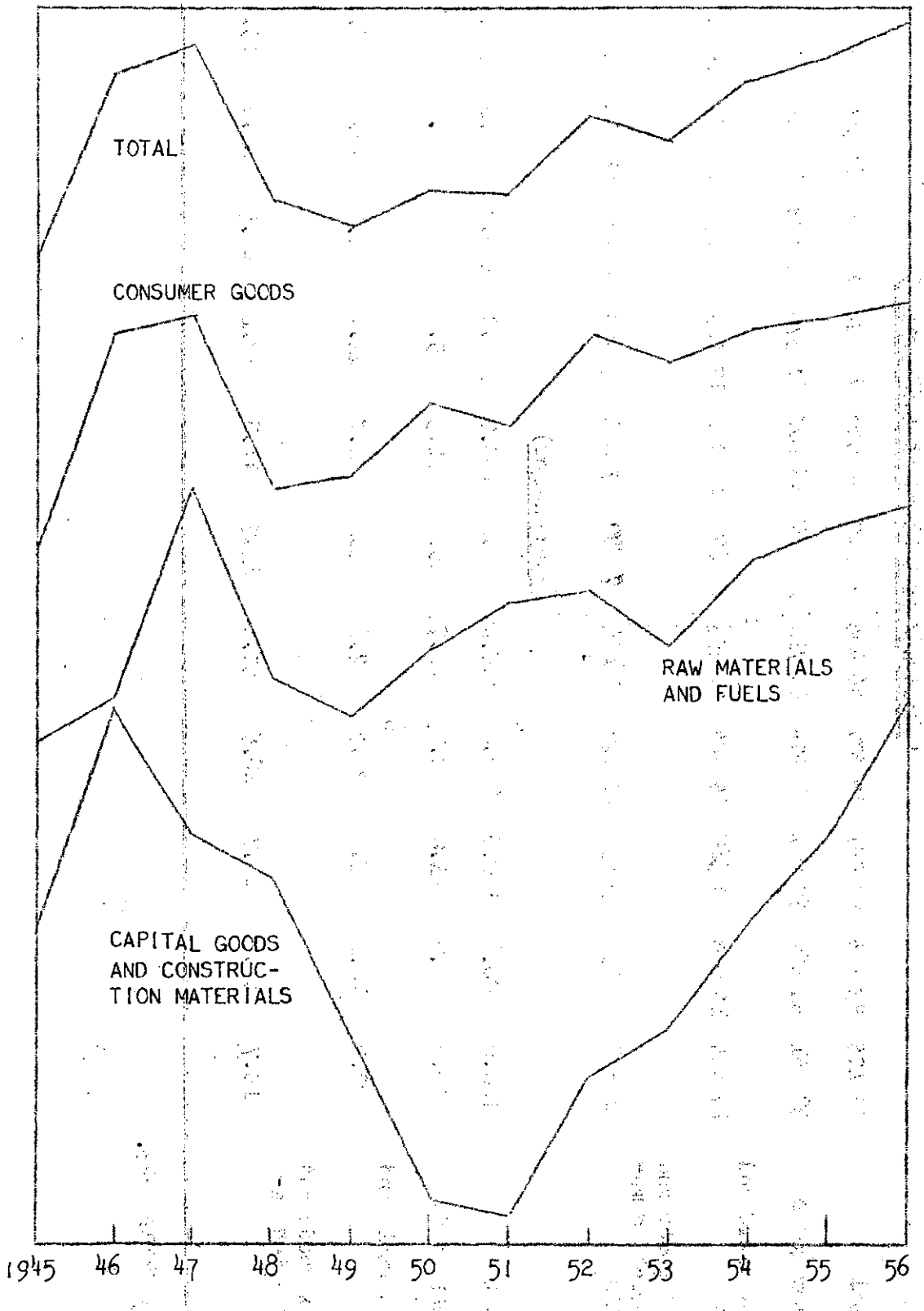
The high proportion of "registered" imports represented by consumer goods shows that Panama is passing through a phase of economic development in which import substitution possibilities are still fairly abudant. This is borne out by the fact that in the more recent years imports of non-durable consumer goods made up more than 43 per cent of "registered" imports, while imports of consumer durables (including the "miscellaneous" group, barely reached 17 per cent of the total (see table B-23).[46] Moreover, the trend of the respective curves in the later year shows that in Panama too the structure of imports is entering on the same process of transformation as has generally characterized the economic development of the other Latin American countries. After 1952 - the year in which the development of internal agricultural and industrial production gathered pace - the quantum of imported non-durable consumer goods remained practically constant at a level below 40 million balboas (see figure I-23). Consumer durables developed differently, the volume of imports increasing intensively during the same period. The levelling-off of imports of non-durable consumer goods was basically due to the import substitution efforts

46/ For a more detailed analysis of import substitution possibilities for this class of goods, see chapter IV, section II.3.

PANAMA : QUANTUM OF REGISTERED IMPORTS, TOTAL AND PRINCIPAL GROUPS

(MILLIONS OF BALBOAS AT 1950 PRICES)

SEMI-LOGARITHMIC SCALE




/Table I-45

Table I-45

PANAMA: QUANTUM OF REGISTERED IMPORTS, C.I.F.

| | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (Thousands of balboas at 1950 prices) | | | | | | | | | | | |
| Total | 63 475 | 83 165 | 87 051 | 69 307 | 66 494 | 70 280 | 69 960 | 78 439 | 75 724 | 82 316 | 85 344 | 90 024 |
| Consumer goods | 37 481 | 51 580 | 53 061 | 40 974 | 41 712 | 46 217 | 45 002 | 51 376 | 49 423 | 52 026 | 52 649 | 53 863 |
| Raw materials and fuels | 14 124 | 15 035 | 20 360 | 15 485 | 14 653 | 16 172 | 12 281 | 17 565 | 16 175 | 18 335 | 19 212 | 19 817 |
| Capital goods and construction materials | 11 869 | 16 550 | 13 632 | 12 847 | 10 129 | 7 890 | 7 676 | 9 498 | 10 126 | 11 954 | 13 484 | 16 343 |
| | (Percentages) | | | | | | | | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Consumer goods | 59.0 | 62.0 | 61.0 | 59.1 | 62.7 | 65.8 | 64.3 | 65.5 | 65.3 | 63.2 | 61.7 | 59.8 |
| Raw materials and fuels | 22.3 | 18.1 | 23.4 | 22.3 | 22.0 | 23.0 | 24.7 | 22.4 | 21.4 | 22.3 | 22.5 | 22.0 |
| Capital goods and construction materials | 18.7 | 19.9 | 15.7 | 18.5 | 15.2 | 11.2 | 11.0 | 12.1 | 13.4 | 14.5 | 15.8 | 18.2 |

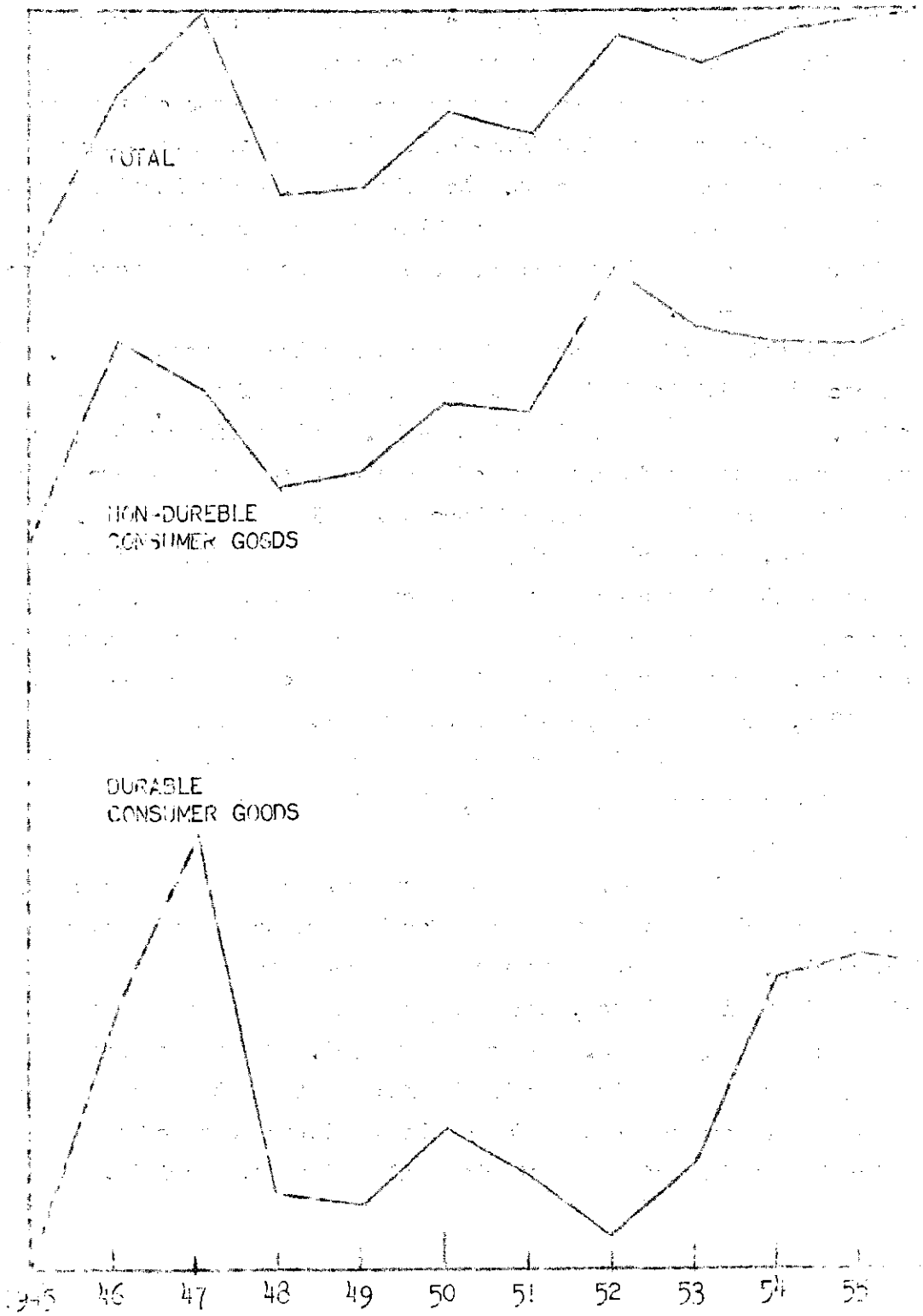
Source: Table B-23.

FIGURE 1 - 23

PANAMA : IMPORT QUANTUM OF CONSUMER GOODS TOTAL, NON-DURABLE AND DU

(MILLIONS OF BALBOAS AT 1950 PRICES)

SEMI-LOGARITHMIC SCALE




/which we

which were made precisely in the production of such goods. Furthermore, the pressure of demand for imports must have been more intense in the group of consumer durables. It is well known that the income-elasticity of demand for goods of this type is one of the highest, whilst obstacles of every kind to their domestic production are still very great in Panama.

Next in importance to consumer goods are imports of raw materials and fuels. During the period 1945-56, their share of imports has regularly amounted to about 22 per cent. In this group, a distinction must be made between raw materials and fuels; while the former show a stationary trend, the latter grow more rapidly than all the other groups of imported goods (see figure I-24).

The volume of imports of fuels and lubricants rose from 4.2 million balboas in 1945 to 7 million in the last year of the period, an increase of 66.7 per cent (see again table B-23). This rapid growth is connected with relatively intense development of certain sectors of the gross product which are the principal consumers of imported fuels and lubricants. As will be remembered, transport activity registered an increase during the period of 59 per cent and manufacturing an increase of 62 per cent, while the energy sector (powered almost exclusively by petroleum) more than doubled. In addition, the number of personal vehicles almost quadrupled between 1945 and 1956, rising from 3,433 to 12,166 units. The intense demand for fuels and lubricants resulting from this marked increase expressed itself exclusively in a rise in imports, since Panama produces none of the items in question.

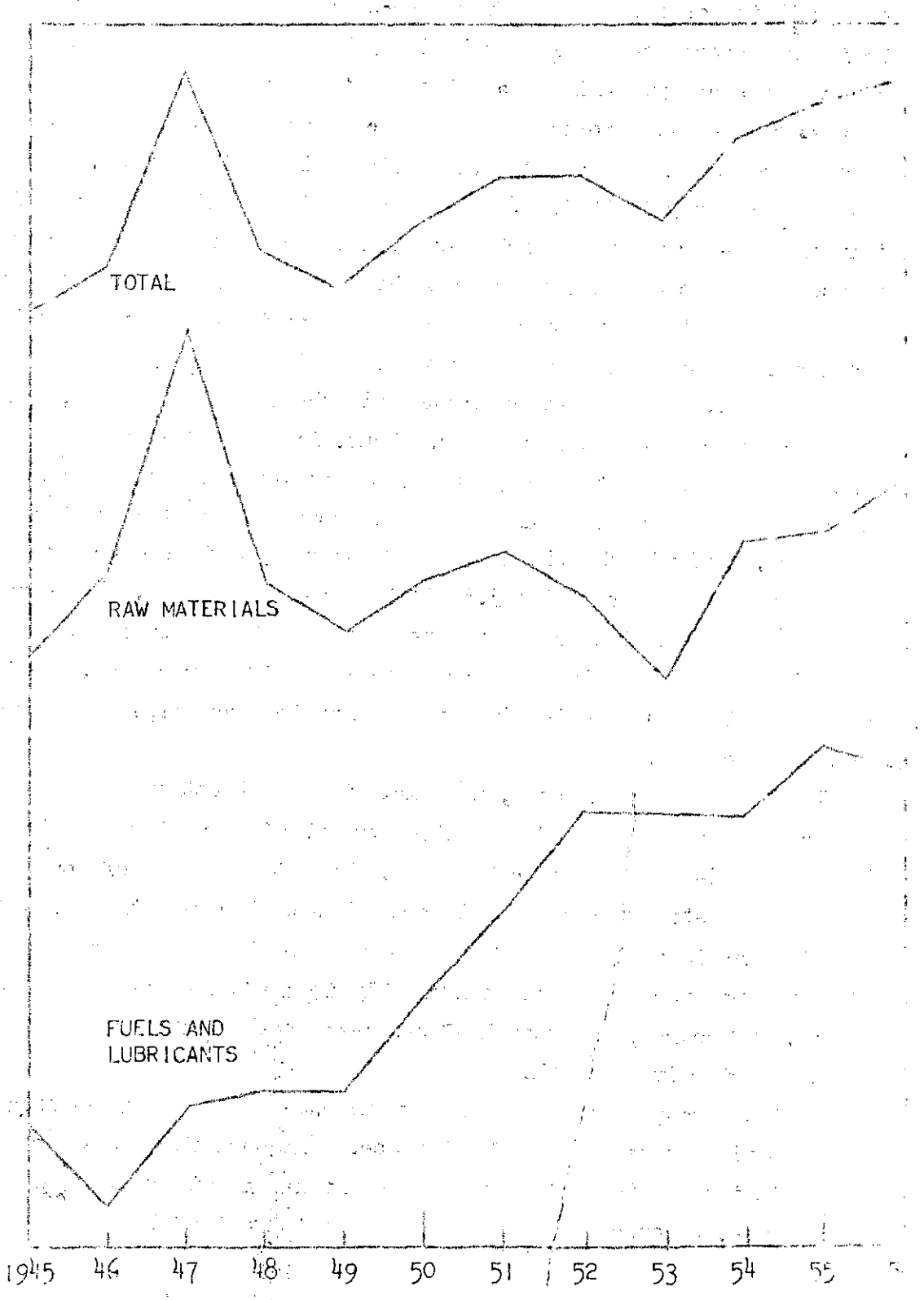
On the other hand, the stationary trend which has characterized imports of raw materials for industry and for the production of capital goods is noteworthy. These two groups combined represented throughout the period about 11 million balboas, and their relative share of the total was 15.6 per cent in 1945 and 14.2 per cent in 1956. One reason for the lack of development in these imports is the fact that the type of industrial development experienced by Panama in the later years of the period is based primarily on domestic raw materials of agricultural origin.

/Figure I-24

FIGURE 1 - 24

PANAMA : IMPORT QUANTUM OF RAW MATERIALS AND FUELS
TOTAL AND BY CATEGORIES

SEMI-LOGARITHMIC SCALE



The share of imports of capital goods, including construction materials, never in any of the post-war years reached a fifth of total imports. At the beginning of the period they approached this proportion very closely; but in the succeeding years, particularly between 1950 and 1953, they contracted sharply, falling to between a tenth and an eighth of the total. In absolute terms, imports of capital goods and construction materials reached an annual average of 15.1 million balboas in 1945-47, a figure which was exceeded only in 1956. The remarkably high level of imports in the initial post-war years was followed by a contraction in the years of reduced economic activity which cut the figure mentioned almost by a half. But apart from the depression, there was an additional factor which reduced the level of these imports during the years in question.

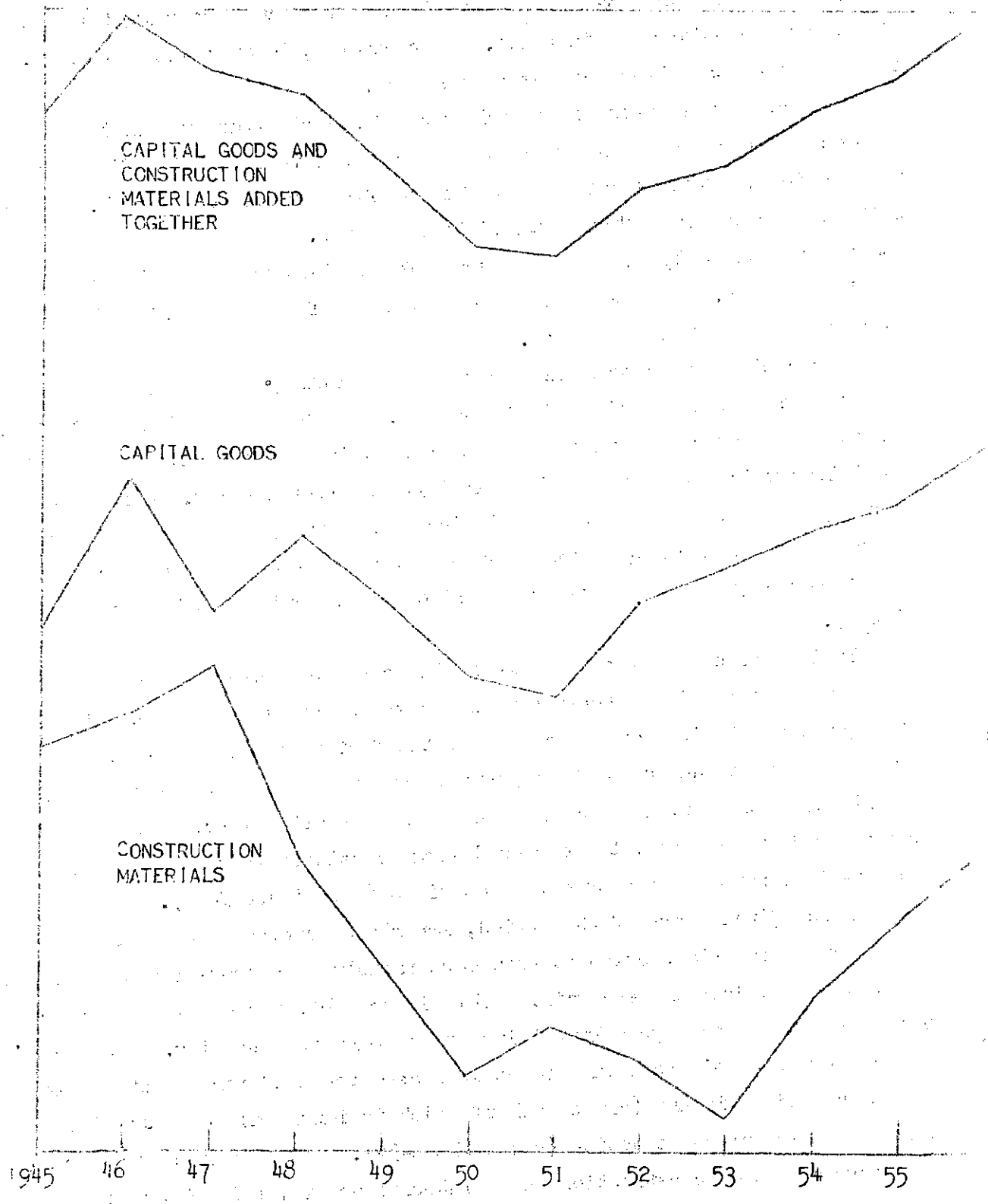
In 1948, Panama began to produce all the cement it needed, and as a result imports dried up completely. Thus, imports of construction materials, which during the first three years of the period had reached an annual average of more than 5 million balboas, dropped after 1950 to less than 2 million. Only in the final years of the period did the volume of imports rise again, reaching 3.5 million balboas in 1956. The establishment of a domestic cement industry is one of the most important advances in Panama's economic development during the period under review, and is another example of the way in which import substitution has helped to reduce foreign purchases.

Imports of capital goods, now excluding construction materials, show a curve similar to that of the latter but the fluctuations are less violent (see figure I-25). On the other hand, while in the case of construction materials a strong process of import substitution sent the curve downward, the high levels of imports of machinery and equipment in the first years after the war were exceeded confortably in the three last years of the period. Of course, the year 1947 has been excluded from the comparison, as being entirely abnormal.

In the group imported machinery and equipment, the types required for manufacturing industry took first place. Although the comparison between the beginning and the end of the period tends to minimize the magnitude of the rise, because of the abnormally high level of imports immediately

PANAMA : IMPORT QUANTUM OF CAPITAL GOODS AND CONSTRUCTION MATERIALS
(MILLIONS OF BALBOAS AT 1950 PRICES)

SEMI-LOGARITHMIC SCALE




/after the

after the war, the annual average for 1954-56 was 20 per cent higher than that for 1945-47. This was due to the strong and steady increase registered in this group from 1951 on. In the first years of the period, of course, the economic recovery exerted some influence; but even after 1953 or 1954 there was a considerable increase. For example, between 1954 and 1956, imports under this head rose by 14 per cent.

The rise in imports of capital goods for agriculture was still more marked: an increase of 84 per cent between the initial and the final three-year periods. The annual average for the first three years was 1.2 million balboas; for the last three, 2.2 million balboas. In the case of capital goods for transport, the annual average for 1945-47 was very high - 1.9 million balboas. In the last three years, the figure was 2.2 million, an increase of only 18 per cent.

For capital goods imports as a whole (excluding construction materials) the comparison shows a rise of 28 per cent. As has been pointed out, this and the other precentages must be interpreted in the light of the special conditions which prevailed in the first years after the war. Despite their apparent smallness, they actually indicate that the process of economic recovery in Panama brought gross investment up in the last years to levels even higher than those of a period perhaps unique in the contry's history.

It is also of interest to compare the curve of imports of capital goods and construction materials with the gross investment curve. The two show great similarity, due of course to the fact that a large share of gross investment is accounted for by imports of capital goods and construction materials. However, it must also be noted that after 1948, when domestic cement production began, the curves diverge considerably because of the decline in imports of construction materials (see figure I-26).

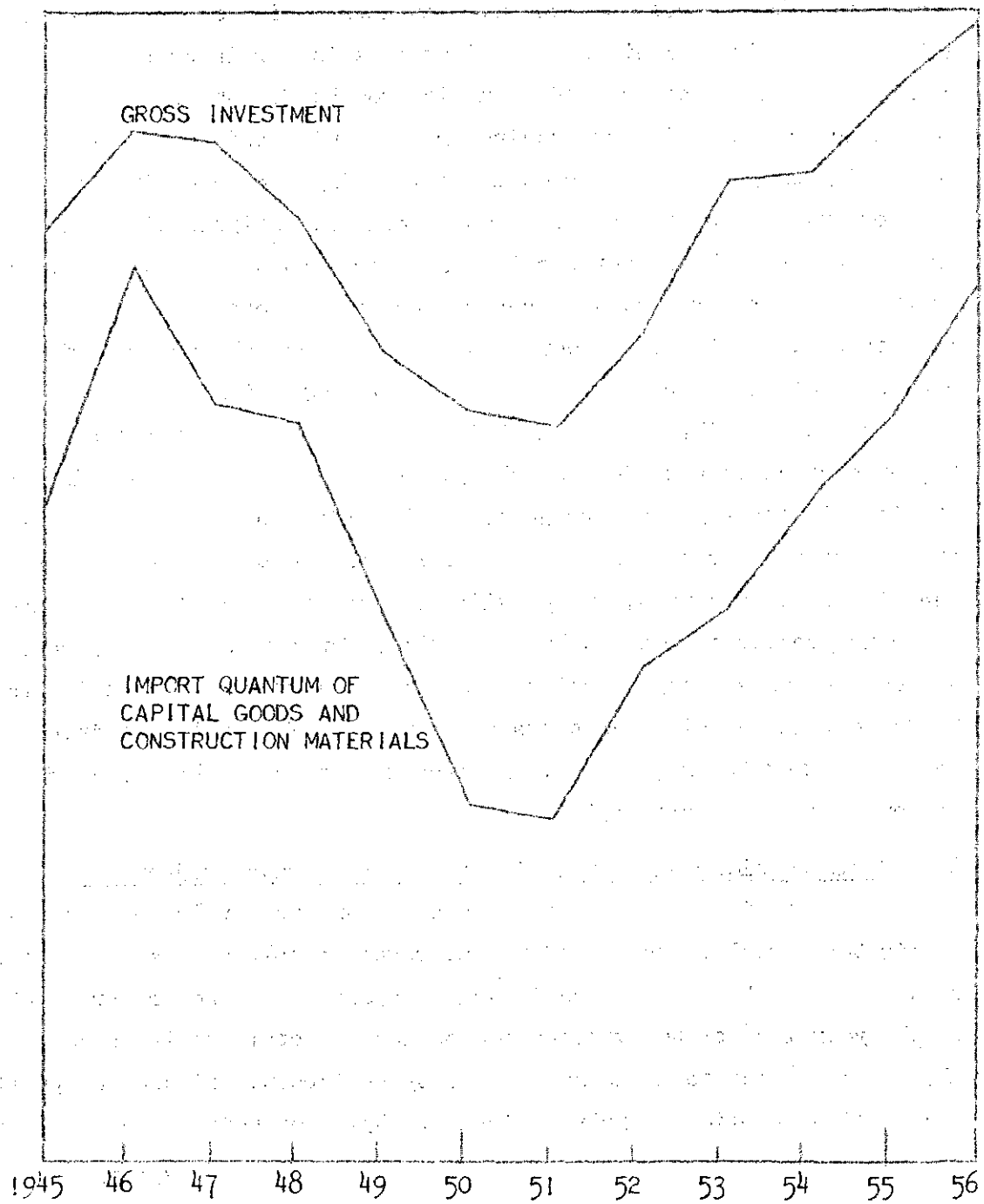
In the final years of the period, imports of capital goods and construction materials began to grow more rapidly than gross investment, and the two curves draw closer again. This is probably because in the later years industrial and agricultural investment expanded steadily. This change in the structure of gross investment increased the need for investment in machinery and equipment (almost all of which is imported) and reduced the relative share of construction (see table B-32). As a large proportion of the gross value of construction is of internal origin, this phenomenon tended to raise the imported share of gross investment in the later years.

FIGURE I - 26

PANAMA : GROSS INVESTMENT AND IMPORT QUANTUM OF CAPITAL GOODS AND CONSTRUCTION MATERIALS

(MILLIONS OF BALBOAS AT 1950 PRICES)

SEMI-LOGARITHMIC SCALE



# Chapter II

# AGGREGATE PROJECTIONS OF PANAMA'S ECONOMY FOR 1966

## I. INTRODUCTION

### 1. Significance of the analysis of development prospects

It would be impossible to derive full benefit from the foregoing analysis of the process of economic development in Panama between 1945 and 1956 unless this analysis were used as a basis for interpreting the country's future prospects of economic growth; for the study of a given period in economic history acquires real meaning and can serve as a guide for policy only when it enables us to identify the determinants of economic development. These determinants once defined, analysis of the factors underlying their behaviour permits us to project their development and on that basis to predict the probable trend of economic growth in the near future, provided, of course, that no accidental factors arise which cannot be allowed for by normal methods of projection.

An attempt will be made in this chapter to fulfil the task referred to, of serving as a guide for policy. In so far as it synthesizes and utilizes in the aggregate projections the main lessons of the general study, the chapter represents the essence of the conclusions derived from the historical analysis, and provides a basis for the study of Panama's economic prospects. On the basis of the information on the operation of the Panamanian economy emerging from the previous chapter, it is proposed to deduce, in quantitative terms and by means of a system of inter-related aggregate projections, the probable trend of the Panamanian economy over the period 1957-66.

### 2. Basic considerations relating to the aggregate projections

The historical analysis of Panama's economic development was carried within the formal framework of the aggregate supply and demand system. The projections to be constructed in this chapter are therefore projections up to the year 1966 of the various components of total supply (gross product plus imports) and total demand (capacity to import, private and public consumption, public and private investment). For this purpose, an attempt

/will be

will be made to identify in particular the factors which determine the behaviour of each one of the components mentioned, and, in so far as they may be measured, to project them. This applies, for instance, to the capacity to import, the future magnitude of which will be determined by a series of factors whose development is analysed in all possible detail in chapter III.

Just as external demand is determined by factors which are largely extraneous to the internal economic situation, depending rather on international market conditions and other external influences, certain components of aggregate supply and demand - for example, private expenditure and the gross product - are affected by the behaviour of the basic features of the economic system within which they operate. Thus the former series of factors constitute independent or exogenous variables, the latter induced variables. Public expenditure which depend basically on political circumstances are normally classified as an exogenous variable. However, Panama may be regarded in this connexion as an unusual case, the spending power of its public sector being determined by its current revenue and by the possibilities of enlarging the internal and external public debt. A fiscal deficit is technically impossible, and even an increase in the public internal debt is subject to certain limitations.[1/] Nevertheless, during the period 1945-56 public expenditure behaved in an autonomous way, expanding by the use of liquid funds from both the private and the Government sector. If this form of financing were ever exhausted, Government expenditure would have to be kept strictly within the bounds of current revenue, and would then cease to be autonomous and become an induced factor.

This feature which results from the structure of Panama's monetary system, is not the only peculiarity of the Panamanian economy. The analysis carried out in chapter I revealed other special features, which were reviewed in order to explain particular phenomena. But the limited interest of explanations of particular phenomena pales in the light of such problems

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1/ See chapter I, section II.B.4.

as the over-valuation of the balboa, the narrowness of the domestic market, the sluggishness of the basic elements in the Panamanian economy and the shortage of basic social capital resulting from the traditional orientation of the economy. As these factors leave their stamp upon, and give a certain direction to the economic development process, it is essential to study why some of them act as stimuli and others as obstacles to Panama's rapid and balanced growth - an almost impossible task. Common to all the factors just enumerated is the difficulty - partly inherent in problems of this kind and partly due to the paucity of reliable statistics - of isolating their effects in definitive form. These are qualitative rather than quantitative problems. Their repercussions are very widespread, and they usually act as brakes on economic development; however they sometimes have a stimulating effect.

This difficulty and the changes which have occurred in the features in question during the past decade made any study of the workings of the Panamanian economy very hard. Such a study, based on the construction of a partial or complete econometric model, would necessitate the establishment of definite functional relationships between the exogenous and induced variables of the model and between the induced variables themselves. But macroeconomic statistics are too crude for use in highly refined analysis. Even more important than this objection is the structural change which took place in various branches of the Panamanian economy during the period 1945-56. Not only were there changes in the basic features referred to, but the whole productive system was reoriented towards meeting the needs of the internal market. Moreover, the initial years of the period were characterized by entirely exceptional conditions, so that the main economic trends have to be explained in the light of special circumstances. For example, the autonomous growth of private consumption in the early post-war years resulted from an accumulation, firstly, of pent-up demand, and secondly, of cash in the hands of consumers, both due to the special conditions of the preceding years.[2/] A somewhat similar trend took place

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2/ See chapter I, section II.B.2.

during the same period as regards Government expenditure. In the following years, on the other hand, the behaviour of the latter was determined by other factors. The development of new exports and the intensification of the import substitution process between approximately 1947 and 1952, when domestic demand was depressed, was partly due to some attenuation in the over-valuation of the balboa.[3/] The change in Panama's economic policy also had an important effect, especially as regards the development of import substitution activities during the last six years of the period. Lastly, while the period 1945-47 was quite exceptional, because of the events of the preceding years, the period 1948-52 was equally so, although in this case the cause was a severe contraction of economic activity.

The foregoing remarks make clear the importance of the structural and operational changes which have taken place in the Panamanian economy since the war. It will be understood that it would be most inappropriate in this case to try to express the relationships between the different variables of the economy in terms of functional equations derived from the statistical series for the period.

3. Characteristics of the model used in the aggregate projections

The aggregate projections made in this chapter will be constructed on the basis of a very simple model, although an independent projection will be used for the fundamental exogenous variable, and an effort will be made to maintain its internal compatibility. The model is based on the future behaviour of the capacity to import and on the fundamental internal dynamic factors; rate of capital formation and intensity of utilization of Panama's productive capacity. The projection of external demand will determine not only the exogenous component of the total demand, but also - if external equilibrium is to be maintained - imports. However, the basic factors determining the increase in the gross product are to be found - on the assumption used here - in the process of capital accumulation and utilization. The former factor may be expressed in terms of the rate of investment in relation to the gross product; the latter may be obtained

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3/ See chapter I, section II.B.2 and section III.A.3.

by relating the gross product to productive capacity (tangible reproducible capital) - in other words, from the product-capital ratio.

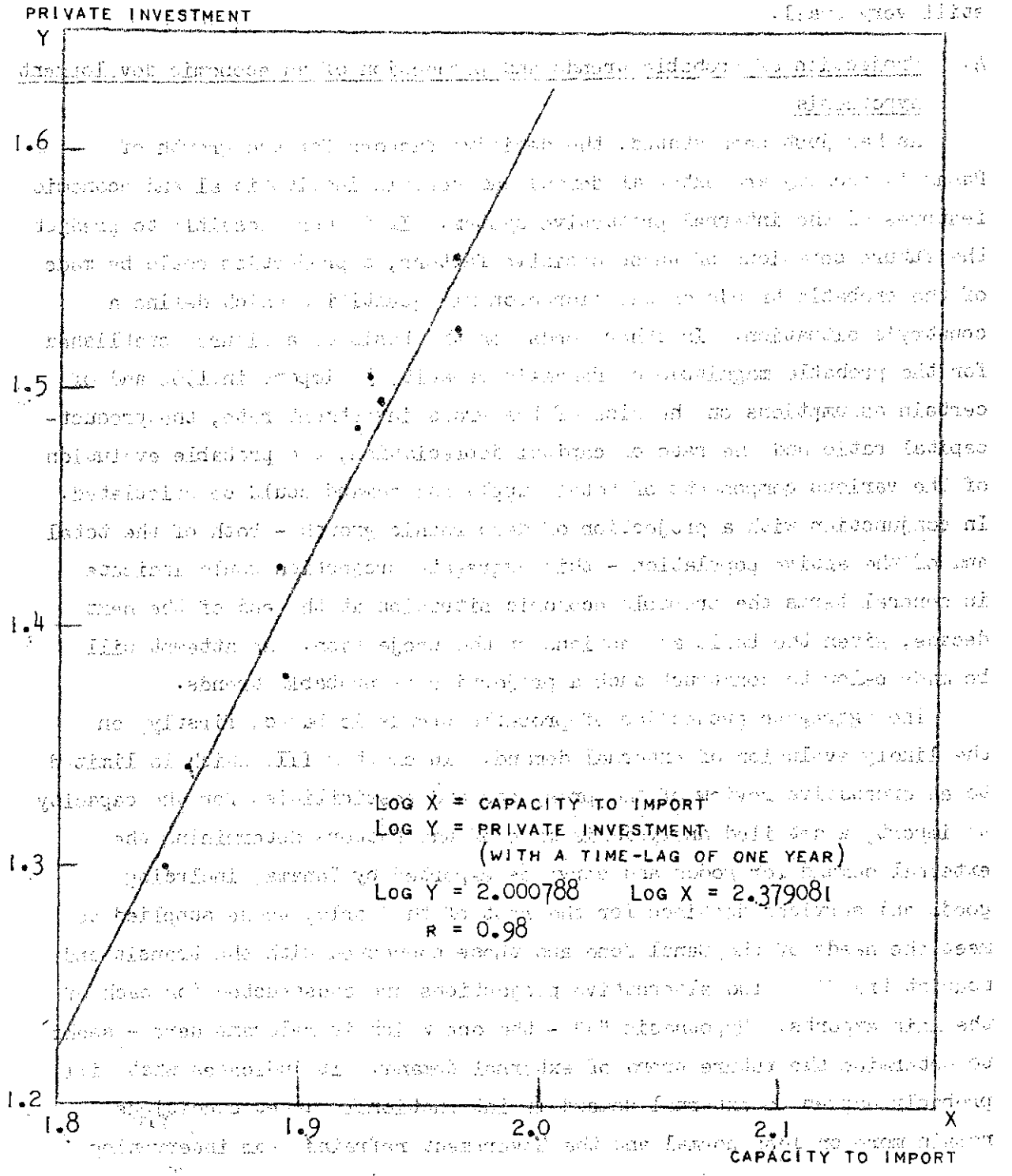
On the basis of these two relationships and of the rate of depreciation of capital, the future magnitude of the gross product and of gross investment may be estimated. Having thus obtained projections of imports and of the gross product, a figure for total supply may be calculated. As the projection of the capacity to import is based primarily on a projection of the quantum and of relative prices of exported goods and services, the effect of the terms of trade is also known. Since this concept of course represents the difference between aggregate supply and aggregate demand, the projections already made determine the future magnitude of the latter. Aggregate demand and two of its components (capacity to import and gross investment) being known, the third component (consumer expenditure) may be obtained residually. However, if the projection is to be properly interpreted, a distinction must be drawn between private and Government consumption. Since the latter item is smaller, and since its size depends to a certain extent on non-economic factors, it may be assumed that it will increase as a function of some exogenous factor, for example population. The share of aggregate demand destined in the future for private consumer expenditure may thus be isolated by subtraction.

To assess more accurately the macroeconomic requisites for a given process of growth, an attempt must also be made to break down gross investment between the public and the private sector. This may be done by working out a functional equation relating the capacity to import to private investment, assuming a time lag between them of one year. The correlation coefficient obtained is very high (0.97) and the slope of the regression curve (2.00) steep (see figure II-1). In spite of the objections mentioned earlier to this type of analysis, its application in this case is justified because of the close relationship which exists in Panama between private investment and the capacity to import. Firstly, a large proportion of private investment, especially in towns, goes into construction. In view of the characteristics of Panama's external trade, it is this sector of the economy which is most exposed to the stimuli resulting from external demand. Secondly, the structure of the monetary

/Figure II-1

FIGURE III-1

PANAMA : RATIO BETWEEN CAPACITY TO IMPORT AND PRIVATE INVESTMENT



system is such that external conditions are one of the main determinants of credit policy, and hence of the financing of a large part of gross investment. Finally, the capacity to import also determines the supply of machinery and equipment, since domestic production of such goods is still very small.

4. Projection of probable trends and projection of an economic development hypothesis

As has just been stated, the decisive factors for the growth of Panama's economy are external demand and certain institutional and economic features of the internal productive system. If it were possible to predict the future behaviour of these decisive factors, a projection could be made of the probable trends of the macroeconomic quantities which define a country's situation. In other words, on the basis of a figure established for the probable magnitude of Panama's capacity to import in 1966 and of certain assumptions on the size of the gross investment rate, the product-capital ratio and the rate of capital depreciation, the probable evolution of the various components of total supply and demand could be calculated. In conjunction with a projection of demographic growth - both of the total and of the active population - this aggregate projection would indicate in general terms the probable economic situation at the end of the next decade, given the basic assumptions of the projection. An attempt will be made below to construct such a projection of probable trends.

The aggregate projection of probable trends is based, firstly, on the likely evolution of external demand. In chapter III, which is limited to an exhaustive review of the prospects and possibilities for the capacity to import, a detailed analysis is made of the factors determining the external demand for goods and services exported by Panama, including goods and services destined for the rest of the world, those supplied to meet the needs of the Canal Zone and those connected with the transit and tourist traffic. Two alternative projections are constructed for each of the main exports. Hypothesis "A" - the one which is relevant here - seeks to determine the future trend of external demand. It indicates what will probably happen to external demand if international market conditions remain more or less normal and the Government refrains from intervening

/more actively

more actively or in a different direction from that of present policy.

So far as internal conditions are concerned - and these, in conjunction with external conditions, play a great part in determing the level of the investment rate and the product-capital ratio - it is assumed that no important changes will occur. This assumption also corresponds to a hypothesis on probable trends, since the institutional and structural characteristics of an economy rarely change radically unless policy is firmly directed towards that end. As the projection of probable trends cannot accept such a possibility, it seems reasonable that these characteristics should be assumed to be invariable.

The aggregate projection of probable trends made on these bases leads to the conclusion that the economic situation in Panama - despite some inevitable expansion in the economy - will tend to worsen. Instead of a rise in the general level of living and some alleviation of the serious problem of unemployment and under-employment, the situation will probably deteriorate in all these aspects, since economic development is likely to be so slow that it will be outstripped by demographic growth.

This being so, the future development of the Panamanian economy will lead to an untenable situation. It must be asked whether a better alternative exists. In other words: what rate of increase in the general level of living may be regarded as reasonable, and what general and specific measures would be needed to achieve this rate of economic development? Or again: to achieve a given rate of increase of <u>per capita</u> private consumption during the decade 1957-66, what structural changes would have to take place in the Panamanian economy? The bases used here must be different from those employed in the previous projection. The point of departure, of course, is a hypothesis "B" on the capacity to import, a projection which, unlike hypothesis "A" used in the aggregate projection of probable trends, implies a bold and effective effort to raise the future level of Panama's exports (see chapter III).

On the basis of this hypothesis and of the target fixed as an acceptable figure for <u>per capita</u> private consumption - and assuming for the moment that the institutional and structural elements of the economy are sufficiently flexible to permit an increase in the rate of investment

/and the

and the product-capital ratio to the extent necessary - a second projection of the main macroeconomic categories will be constructed. From this projection we shall deduce the effort which Panama would have to make in terms of increasing gross investment and expanding the principal sectors of the gross product (especially those producing basic goods and services). The decisive role which would devolve upon the public sector and the extent to which imports would have to be curbed throw further light on the magnitude of the changes necessary.

The changes which will have to take place in each sector of the productive system and which are implicit in the hypothetical projection of economic development are specified in detail in chapter IV, which will give some idea of the new lines along which the economy will have to be directed if the level of living of the population is to be raised to the extent indicated. Of course, such radical changes cannot be carried through without some modifications in the institutional and structural conditions which stand in the way of an evolution of this kind. Hence, some study must be given to the question of what institutional and economic policy changes would have to be carried out to achieve the greatest possible increase in exports of goods and services, the greatest possible substitution of imports, a sufficiently high rate of investment and an intense utilization of installed productive capacity. The size and nature of the necessary changes once determined in some detail, a broad analysis can be made of the domestic conditions which would be required to attain the development prerequisites just set forth. Thus, the hypothetical projection of economic development will necessitate thorough study of the conditions essential for development along the lines indicated and within a general framework of economic equilibrium.

## II. AGGREGATE RPOJECTION OF PROSPECTS FOR PANAMA'S ECONOMY

### 1. Assumptions of the projection of probable trends

The fundamental aim of the projection of probable trends is to derive from the historical analysis a fairly clear indication of the future development of Panama's economy. The projection is based on a general assumption of continuity in institutional conditions, basic structural characteristics and economic policy. Given this assumption that the economic framework will continue more or less unchanged, specific projections are made for the various determinants of the model.

(a) External demand and imports

The projection of the capacity to import will be set forth in detail in chapter III. In this case, hypothesis "A" will be the one used, since it corresponds to the general assumption of continuity underlying the projection of probable trends. The increase in the capacity to import predicted in this hypothesis for the 1956-66 decade is barely 12.7 per cent, from 92.4 million balboas in the first year of the period to 104.1 millions in the last (see table III-1). It is significant that the reason for these poor growth prospects lies mainly in the trends observable in the most important sector of Panama's external demand, namely, the sale of goods and services to the Panama Canal Zone, which are estimated to fall from 53.0 million balboas in 1956 to 52.2 millions in 1966.

From the point of view of the unemployment problem, it should be pointed out that this decline is concentrated mainly in those items of demand which involve direct services by Panamanian labour. Apart from wages earned by employees of Panamanian contactors, sales of services to Canal Zone agencies and, especially, regular wages earned by Canal Zone employees resident in Panama will drop substantially. For reasons analysed in the relevant part of this study, it is estimated that the quantum of services rendered to the Canal Zone will fall from 20.1 million balboas in 1956 to 17.5 millions in 1966 (see table III-19).[4/] This contraction of almost 13 per cent in the quantum of personal services demanded by the Canal Zone will probably be equivalent, assuming that there are no important changes in the number of man-hours worked per week, to the decline in the employment of Panamanians in the Zone. As this sector

4/ See chapter III, section IV.

of employment is one of the economic activities into which the gross product was broken down, the projection of this quantum in fact represents the projection of the gross product of the Canal Zone. But the influence of these items on the capacity to import is not so negative as their influence on the gross product, since the wage rates of Canal Zone employees will probably rise.

Registered exports of goods form another sector of external demand which is characterized by a marked tendency towards stagnation. Although an increase of 16.7 per cent over the figure for 1956 is projected, it has to be remembered that the figure for that year was exceptionally low. In 1955 - the year preceding the base-year of the projection - capacity to import generated by registered exports of goods amounted to 31.7 million balboas, whereas hypothesis "A" projects a figure for 1966 of 30.0 millions. This slight decline with respect to the previous maximum is due mainly to the poor prospects of growth for Panama's traditional agricultural exports (bananas and cacao) and the probable stagnation of shrimp exports.

External demand connected with transit and tourist activities - which represent only 14.8 per cent of the capacity to import - is the only item which holds out dynamic prospects. This trend, however, is due mainly to the tourist and general transit traffic, for re-exports are likely to remain stationary and the corresponding items are of little relative importance.

From the point of view of their utilization in the aggregate projection of probable trends, the projections of external demand given in chapter III - whose salient features have just been summarized - yield the following results: (a) the total capacity to import in 1966 should amount to 92.4 million balboas; (b) the effect of the terms of trade in that year should be equivalent to a figure of 7.9 millions which corresponds to the difference between the capacity to import and the quantum of future exports; (c) assuming that in 1966 the balance of payments will be in equilibrium, total imports in that year should reach the same figure as that for the capacity to import and (d) the detailed projection of the capacity to import gives a projected figure for the gross product generated in the Canal Zone of 17.5 million balboas in 1966.

(b) The growth equation and internal variables

For the projection of the remaining elements in the pattern of total supply and demand, an equation is used which relates the rate of investment with the coefficient of capital utilization and the rate of capital depreciation, thus permitting the rate of growth of the gross product to be calculated.[5/] The projections of the rate of investment and the gross product may therefore be worked out directly from this equation, and consumption may then be calculated by subtraction. Nevertheless, as will be seen below, both gross investment and total consumption are broken down again between the private and public sectors.

The growth equation used in the model necessitates the formulation of specific assumptions on the rate of gross investment, the product-capital coefficient and the rate of capital depreciation. Before these assumptions are discussed, it should be made clear that the concept of the gross product used in the model differs from the normal in that it excludes the Canal Zone. This sector consists almost exclusively in the provision of personal services to Canal Zone agencies, and demand for them is confined solely to that area. Hence, there is little or no relationship between the product generated by this activity on the one hand, and the capital, investment rate and capital depreciation of the Panamanian economy on the other. For this reason, the projection of this sector of the product has been constructed in direct relation to the analysis of external demand.

Of the three variable determinants of the growth equation, the gross investment rate is the only one which can be based on statistical time series, i.e. on previous experience. Table II-1 shows that during the period 1945-56 the gross investment rate underwent very marked fluctuations, varying between 18.4 per cent in 1946 and barely 11.4 in 1951. Both these extremes reflect quite exceptional conditions. It is worthy of note that the upper limit of the investment rate, even in a period so favourable as the first three years after the war, is around 18 per cent. During the last years of the period (the only ones which may be considered relatively normal) the investment rate tends to approximate

5/ The equation is as follows: $r = \alpha t - d$, where r is the annual cumulative rate of growth of the gross product, $\alpha$ is the product-capital ratio, t is the rate of gross investment over the gross product and d is the rate of depreciation of capital.

/Table II-1

Table II-1

PANAMA: RATE OF GROSS INVESTMENT, 1945-56

| Year | Gross product excluding Canal Zone | Gross investment | Gross investment as percentage of gross product (excluding Canal Zone) |
|---|---|---|---|
| | (Millions of balboas at 1950 prices) | | |
| 1945 | 209.3 | 36.5 | 17.4 |
| 1946 | 228.7 | 42.0 | 18.4 |
| 1947 | 234.8 | 41.3 | 17.6 |
| 1948 | 224.7 | 37.2 | 16.6 |
| 1949 | 229.6 | 30.7 | 13.4 |
| 1950 | 238.3 | 28.5 | 12.0 |
| 1951 | 243.3 | 27.8 | 11.4 |
| 1952 | 257.9 | 31.6 | 12.3 |
| 1953 | 273.5 | 39.6 | 14.4 |
| 1954 | 283.0 | 39.9 | 14.1 |
| 1955 | 295.9 | 44.8 | 15.1 |
| 1956 | 305.4 | 49.2 | 16.1 |

Source: Tables B-1 and B-32.

16 per cent, a figure slightly lower than that which prevailed in the initial years.

The effect of external demand on the behaviour of the gross investment rate is obvious. The reason is that private investment is very closely related to the capacity to import, and that it normally accounts for more than three-quarters of gross investment. Assuming that the capacity to import will continue to determine the investment rate in the future, the latter will most probably decline from the level attained in the last years of the period. In the case of private investment for example, an increase of 12.7 per cent in the capacity to import would bring about a rise of barely 22.7 per cent in the 1956-66 decade (see again figure II-1). In other words, and assuming a similar increase in public investment, gross investment per capita and per economically active person would drop considerably, and the growth in the gross product would be wholly inadequate.

However, there is no reason why this situation should inevitably come about. The changes made in economic policy during recent years, and the fact that Panama seems to possess relatively abundant investment resources, suggest that the country could perhaps maintain the gross investmen rate of 16.1 per cent achieved in 1956 despite the poor prospects of growth for the capacity to import. There are several facts which appear to confirm this suggestion. Panama has developed its construction materials industry fairly substantially, thus doing much to free gross investment from its dependence on the capacity to import capital goods. This is the more important in that construction often accounts for more than half of total gross investment sometimes even approaching two thirds (see table B-32).

In addition, the amount of the savings available for capital formation does not seem to set up in Panama, as in other Latin American countries, an insurmountable obstacle at least in the immediate future to any increase in gross investment or the maintenance of a high rate of capital formation. In chapter I, in examining the behaviour of expenditure in the public sector, repeated references were made to the considerable size of the liquid funds which the Government could absorb by means of the public internal debt. Attention was also drawn to the high liquidity of the financial system, the magnitude of the monetary reserves

/and foreign

and foreign deposits and the relatively high rate of capital formation which prevailed wherever stimuli to the development of production were improved. In this connexion, mention should be made of the phenomenon of over-investment which has been characteristic whenever a new activity with favourable prospects has developed; the excessive growth of the shrimping fleet, the building of fish-meal plants without reliable supplies of the raw material and with the problem of fish conservation still unsolved, and the surplus capacity in factories producing milk, bread and beverages are all cases in point.6/

Finally, as has been pointed out, the slope of the regression curve which was obtained from the correlation between the capacity to import and private investment was very high (2.00), indicating a marked elasticity of private capital formation in relation to changes in external demand.

From the foregoing facts it emerges quite clearly that the investment problem in Panama results not from the shortage of available savings but rather from the absence of adequate and lasting stimuli to an increase in private capital formation.7/ All the evidence suggests that Panama's economy tends to generate a mass of savings which, because of the lack of investment opportunities, exceed the investment absorption capacity of the country's economic system. Of course, this applies only to the private sector, but it should also be remembered that the social security system serves to attract savings towards the public sector.

Thus, there now exists within the Panamanian economy a large mass of accumulated savings which both public and private sectors can use to increase the rate of capital formation. Furthermore, in so far as new incentives to investment are created, the rate of saving may even rise in the next few years. For all these reaons, and provided that the public sector assumes a guiding role in the mobilization of financial resources and their proper investment, it would not seem excessive to assume that Panama can maintain during the next decade an average rate of gross investment similar to that of 1956, i.e. 16.1 per cent.

6/ International Bank for Reconstruction and Development, Industrial Development in Panama, prepared by Walter J. Armstrong for the Government of the Republic of Panama, Washington, D.C., 1957, pp.17, 20 and 21.

7/ For a more detailed analysis of this problem, see this chapter, section III.2.

/Unfortunately, Panama

Unfortunately, Panama does not possess the basic statistics necessary to define the values which should be assigned in this projection to the product-capital ratio and the depreciation rate. Certain estimates of a rather rough kind made on the basis of census data and partial surveys suggest that in normal conditions of employment (as, for example, in recent years) the product-capital ratio has fluctuated around 0.40, a figure somewhat lower than that which has been estimated for Latin America as a whole in the post-war decade. A coefficient of capital of this size must be considered relatively high for an economy in which the shortage of basic social capital and the restricted development of the domestic market for goods and factors make any better utilization of productive resources, particularly capital, difficult. However, as the assumption of the maintenance of a fairly high rate of gross investment would not be compatible with an excessively low utilization of installed productive capacity, this projection will be based on the assumption of an average product-capital ratio of 0.40, similar to that which has probably prevailed in recent years. So far as concerns the rate of depreciation of tangible reproducible wealth, considerations relating to the composition of capital and its average age in the main sectors of the economy (for which partial information is available) suggest an assumption of 3.0 per cent per year. This rate of depreciation is similar to those which have emerged from estimates made in certain other Latin American countries.

On the basis of the foregoing assumptions, the gross product - excluding that generated in the Canal Zone - should grow over the period 1956-66 at a rate of 3.4 per cent annually, giving a total increase of 39.7 per cent. It should be borne in mind that this projection is probably based on the most favourable assumptions as regards the investment rate and the degree of utilization of productive capacity which it is possible to make given the structural and institutional conditions prevailing in Panama, particularly if only a very moderate increase takes place in the capacity to import. As has been seen, the rate of investment adopted is the highest recorded since the war in conditions of normal external demand. The assumed product-capital ratio is higher than that of several Latin American countries and

/not much

not much lower than the figure estimated for Latin America as a whole (see table II-2). The assumption on depreciation implies an average life of existing capital of 33 years, perhaps a rather high figure if it is remembered that Panama's infrastructural and industrial development is fairly recent. The replacement of existing capital in housing in the last decade and a half tends to confirm this view.

Given these favourable conditions and some continuity in the basic features of Panama's structural and institutional framework and economic policy, the gross product should increase during the next decade at a rate slightly higher than that of population growth. If the assumptions concerning the two basic variables of the model were somewhat less favourable, the prospects of growth for the gross product would be very discouraging (see table II-3).

(c) The aggregate projection of probable trends

The projection of the gross product, excluding the Canal Zone, and the estimate already made for the latter sector permit a calculation of the total gross product for 1966. Because of the decline in the gross product generated in the Canal Zone, this figure should increase by only 36.4 per cent between 1956 and 1966, reaching a value of 444.1 million balboas (see table II-4). Projecting imports as a function of the capacity to import, a figure is obtained for aggregate future supply. If the effect of the terms of trade is also known, aggregate demand may be obtained, and if gross investment is deducted from this figure the balance represents consumer expenditure, both public and private. As this latter component is of interest, as being a more faithful reflection of the general level of living, a projection was made of consumer expenditure in the public sector, on the assumption that this would grow at the same rate as the population. This implies that per capita public expenditure will remain stationary; but that need not prevent an improvement in the quality and quantity of social services achieved by better use of the funds appropriated by the Government

/Table II-2

Table II-2

PANAMA: LIMITS OF PRODUCT-CAPITAL RATIO IN CERTAIN LATIN AMERICAN COUNTRIES AND IN LATIN AMERICA AS A WHOLE

| Country | Period | Limits of product-capital ratio |
|---|---|---|
| Mexico | 1945-55 | 0.40 - 0.51 |
| Brazil | 1939-53 | 0.49 - 0.57 |
| Colombia | 1945-54 | 0.32 - 0.40 |
| Bolivia | 1950 | 0.29 |
| Argentina | 1945-55 | 0.28 - 0.32 |
| El Salvador | 1945-57 | 0.30 - 0.48 |
| Latin America | 1945-55 | 0.45 - 0.49 |

Sources: ECLA, Analyses and projections of economic development, Volumes I, II, III, IV, V and VI; and ECLA, External disequilibrium in the economic development of Latin America: the case of Mexico, doc. E/CN.12/428 and Add. 1.

/Table II-3

Table II-3

PANAMA: ALTERNATIVE ASSUMPTIONS AS REGARDS GROWTH OF GROSS PRODUCT IN THE MODEL FOR PROBABLE TRENDS a/

| Alternatives | Product-capital ratio | Rate of gross investment | Rate of capital depreciation b/ | Annual rate of growth of gross product (percentages) |
|---|---|---|---|---|
| A | 0.40 | 0.16 | 0.03 | 3.4 |
| B | 0.40 | 0.13 | 0.03 | 2.2 |
| C | 0.40 | 0.10 | 0.03 | 1.0 |
| D | 0.35 | 0.16 | 0.03 | 2.6 |
| E | 0.35 | 0.13 | 0.03 | 1.6 |
| F | 0.35 | 0.10 | 0.03 | 0.5 |
| G | 0.30 | 0.16 | 0.03 | 1.8 |
| H | 0.30 | 0.13 | 0.03 | 0.9 |
| I | 0.30 | 0.10 | 0.03 | 0.0 |

a/ See growth equation in footnote 5

b/ It is reasonable to assume that the average age of existing fixed capital will not alter appreciably in a decade.

/Table II-4

Table II-4

PANAMA: PROJECTION OF PROBABLE TRENDS

| | 1956 | 1966 | 1966 index (base 1956=100) | Annual rate of growth between 1956 and 1966 |
|---|---|---|---|---|
| | (Millions of balboas at 1950 prices) | | | |
| Aggregate supply | 429.4 | 548.2 | 127.7 | 2.5 |
| Total gross product | 325.5 | 444.1 | 136.4 | 3.2 |
| Gross product excluding Canal Zone | 305.4 | 426.6 | 139.7 | 3.4 |
| Gross product of Canal Zone | 20.1 | 17.5 | 87.1 | -1.4 |
| Imports | 103.9 | 104.1 | 100.2 | - |
| Aggregate demand | 447.3 | 556.1 | 124.3 | 2.2 |
| Capacity to import | 92.4 | 104.1 | 112.7 | 1.2 |
| Private consumption | 264.4 | 328.5 | 124.2 | 2.2 |
| Consumption in public sector | 41.3 | 54.8 | 132.6 | 2.9 |
| Gross investment | 49.2 | 68.7 | 139.6 | 3.4 |
| Public sector | 13.0 | 24.3 | 186.9 | 6.4 |
| Private sector | 36.2 | 44.4 | 122.7 | 2.1 |
| Difference between supply and demand | 17.8 | 7.9 | - | - |
| Effect of terms of trade | 6.3 | 7.9 | - | - |
| Statistical discrepancy | 11.5 | - | - | - |

Source: See table A-1, and, for the projection, the text of chapter II, section II.1.

/for its

for its current expenditure.[8/] Private consumption may then be obtained directly by subtraction.

In the case of gross investment the same breakdown between the public and private sectors was made on the basis of the correlation between capital formation in the private sector and capacity to import described above. By projecting the latter component for the next decade, it was possible to obtain the probable size of private investment. The difference between that figure and total gross investment then corresponds to investment by the public sector. The use of this method for the projection of private investment does not contradict the previous projection of total gross investment, in which it was postulated that the latter did not depend on the conditions of external demand. It merely implies that potential investment availabilities in Panama will not be used by the private entrepreneur but will be absorbed by the State for those basic investments which the country needs for its progress.

The final result of the aggregate projection of probable trends, whose basic assumptions have been explained in previous paragraphs, is given in table II-4. In the next sub-section an attempt will be made to interpret these data in order to establish a comparison between the general economic situation which might prevail in 1966 and that which has been experienced recently, and to bring out some of the more important phenomena which will have to take place during the decade in order to achieve the results indicated.

2. Interpretation of the aggregate projection of probable trends

In order to make clear the real significance of the aggregate projection of probable trends, it should first be pointed out that the population of Panama will probably increase from 940,200 in 1956 to 1,246,700 in 1966, a growth of 2.6 per cent. The annual rate of economic growth corresponding to this figure would be 2.86 per cent. If the

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8/ Various enquiries suggest that the Panamanian Government could substantially increase the productivity of its expenditure in this way. See for example, International Bank for Reconstruction and Development, Public Finance of Panama (Romeo Dalla Chiesa), Washington, D.C., 1957.

development of the population is compared with the probable development of the economy in the light of the projection, it will be observed that per capita gross product will remain practically stationary while per capita private consumption, i.e. the general level of living, will fall by more than 7 per cent (see table II-5).

Obviously, total private consumption could show a greater increase than that derived from the projection if the assumption of a future balance between imports and capacity to import were replaced by the assumption that capital transactions and transfers will show a net favourable balance. Supposing, for example, that the difference recorded in 1956 between imports and the capacity to import remained constant, in relative terms, imports in 1966 could reach a figure of 117.1 million balboas. If the aggregate supply were enlarged to this extent, private consumption could attain a level of 341.5 million balboas, provided that the remaining items did not alter. The increase over 1956 would in this case be 29.2 per cent, still lower than the population growth. Indeed, to maintain the general level of living even at a stationary level, private consumption would have to reach a figure of 350.6 million balboas; and to achieve the deficit in the current payments account would have to rise from the present level of 12.4 per cent to more than 20 per cent in 1966. This situation would result from an increase of 12.7 per cent in external demand during the next decade, while imports would have to increase by 21.5 per cent.

Although the alternatives suggested do not significantly change the prospects for the general level of living, the favourable balance of the capital account (and the transfers account) would have to expand considerably to prevent a decline in the level of living. But the possibilities of such a development are not very great. Because of the large proportion of persons of foreign extraction in the resident population, the transfers account tends rather to be negative. And so far as concerns recent experience with foreign capital, the exceptional incentives which have been offered during recent years seem to have met with a somewhat weak response. This is the more significant because there remains little available margin for increasing incentives to private industry and because, in some respects,

/Table II-5

Table II-5

PANAMA: PROJECTIONS OF POPULATION AND PER CAPITA GROSS PRODUCT AND PRIVATE CONSUMPTION

| | 1956 | 1966 | 1966 (index, 1956=100) |
|---|---|---|---|
| Population (thousands) | 940 | 1 247 | 132.6 |
| Per capita gross product (balboas) | 346 | 356 | 102.9 |
| Per capita private consumption (balboas) | 281 | 263 | 93.6 |

Source: Table II-4 and text.

concessions have been granted which may even prove dangerous for the economy as a whole. 9/

Panama's complete monetary stability and the total absence of controls over capital movements and foreign trade in general, coupled of course with the free circulation of the dollar, are additional highly favourable and attractive factors for the foreign investor. However, as has been pointed out, it has proved impossible even in such favourable circumstances as these to obtain an influx of foreign capital of the necessary or desirable magnitude.

The basic reason for this lack of response from foreign investors is of course the absence of real incentives to production which is characteristic of Panama. It has already been pointed out that the Panamanian economy tends to generate a mass of savings which exceeds the investment needs of local entrepreneurs. Below, reference will also be made to the structural

9/ This refers to the practice of establishing, for fairly long periods, fixed rates for the payment of social security contributions and taxes. International Bank for Reconstruction and Development, Industrial Development in Panama (Walter J. Armstrong), Washington, D.C. 1957, p.7

/and institutional

and institutional causes which weaken the stimuli to private investment.[10] In these circumstances, the legal and tax incentives and financial facilities offered by Panama in no way make up for the lack of basic investment opportunities inherent in the smallness and sluggishness of the Panamanian market, the high production costs which prevail throughout the country and the limited resources of raw materials and energy.

The conditions in which Panama's banking and monetary system operates have, it is true, had the effect of attracting liquid financial resources, but such international transfers have practically no significance from the point of view of economic development. They cannot even serve as a basis for an expansion of credit capacity, since they fluctuate considerably and cannot therefore be used to back internal loans. The danger implicit in this practice - in the absence of a re-discount house - became apparent in 1951 when a banking institution had to suspend its operations temporarily because of the sudden withdrawal of foreign funds deposited in the country.

Since it is very unlikely that the inflow of capital will increase in the future, the initial assumption of an equilibrium in the balance of payments, or at most of the maintenance of the present imbalance, seems the most reasonable. Consequently, the prospects deriving from the aggregate projection made may be considered valid, and therefore merit more detailed analysis.

As will be remembered, this projection suggests a slightly declining trend in the level of living and a practically stationary trend in the per capita gross product. Even then, the Panamanian economy will have to undergo a series of comprehensive changes, and an all-out effort in many directions will be required from the community. It has already been said that the investment rate will have to be kept at a fairly high level which, in view of the lack of dynamic incentives to private investment, means that the public sector will have to increase its investment considerably. The process postulated will entail a rise of almost 40 per cent in gross investment,

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10/ See this chapter, section II.2.

/private investment

private investment increasing by barely 23 per cent. In practice, therefore, Government investment expenditure will have to expand by 90 per cent (see again table II-4). This alone implies a substantial change in the role traditionally played in Panama by the State, since the share of public investment in total gross investment - which in the last five years of the period fluctuated between 16 and 26 per cent - would have to rise to 35 per cent in 1966. The structure of public expenditure would also have to be radically transformed. During the period 1945-56, the portion set aside for investment exceeded 20 per cent only in exceptional years; in 1966 it would have to reach a figure slightly over 30 per cent.

Furthermore, imports given the poor prospects of growth for the capacity to import would remain more or less stationary. As total private consumption would rise by 24.2 per cent, the corresponding increase in gross investment would be 39.6 per cent and in the gross product 36.4 per cent. The demand for imported consumer goods, capital and raw materials and fuels would tend to climb in greater or similar proportions. As the available margin for imports would not permit this, the structure of aggregate supply would have to change radically, the share of the gross product in the aggregate - in 1956 less than 70 per cent - increasing to almost 80 per cent. In other words, there would be a process of import substitution of considerable magnitude. So far as concerns one of Panama's most serious problems - unemployment and under-employment - the propects deriving from this aggregate projection hold out equally little hope of a solution. Assuming that the economically active population will continue to increase at the post-war rate of 3.0 per cent per year, it should grow by 34.4 per cent during the next decade. This increase is almost equal to that predicted for the increase in the gross product, so that productivity per active person is likely to remain constant. Consequently, the problem of unemployment (and probably also of under-employment) will be relatively just as serious as at present. Nevertheless, it seems reasonable to assume some increase in productivity employed per person, since per capita

/investment is

investment is expected to rise slightly and the normal rate of technical progress should continue. In these circumstances the projection of probable trends would imply that unemployment and under-employment will worsen, particularly as the composition of the gross product will tend to change. The contraction of external demand, especially from the Canal Zone, is directly reflected in employment in the Zone, and particularly affects the services sectors, notably personal services. The relative contraction of all these sectors, in which the density of manpower per unit product is very high, could not be offset (in terms of employment) by an increase in the goods-producing sectors, in which the density of manpower per unit product is much lower and in which growth depends on the rise in existing productive capacity.11/

This analysis shows that if the assumptions underlying the projection are borne out, Panama's economic situation in 1966 could be decidedly unfavourable. Even at the cost of placing a heavy strain on its economy, Panama would be unable to offset the discouraging trend of external demand. Any idea of improving the general level of living and of even alleviating the severe employment problem would have to be set aside. When so discouraging a conclusion is arrived at after basing the projection on fairly optimistic assumptions, some alternative must be suggested. The question must be asked whether Panama could not without attempting any economically intolerable objectives, sustain a more positive process of economic development during the next decade. In the following section an attempt will be made to answer this fundamental question.

11/ See chapter I, section III.3.c, and this chapter, section II.1.

## III. AGGREGATE PROJECTION OF AN ECONOMIC DEVELOPMENT HYPOTHESIS

### 1. Illustration of a hypothetical process of growth

In view of the unfavourable prospects for the future development of Panama's economy which have just been outlined, an alternative projection must be made which will not only illustrate the possibilities of growth for Panama assuming a resolute effort to raise the level of living but will also make clear what measures and changes will be required if this objective is to be achieved. The aim of this projection is very different from that of the projection of probable trends. While the latter was designed, inter alia, to give some indication of the probable evolution of the general level of living given the existence of a number of conditions, the present projection starts by postulating a definite rate of increase in per capita private consumption.

The model used in the aggregate projection of the economic development hypothesis is exactly the same as that already explained. The basic assumptions are still the independent projection of external demand and the three determinants of the growth equation: the rate of gross investment, the product-capital ratio and the rate of capital depreciation. In addition, an initial assumption is made on the rate of growth of per capita private consumption which could be considered adequate or reasonable. For this increase to be attained, the basic assumptions of the projection will of course have to reach values more favourable than those adopted for the projection of probable trends, which was based on assumption which, given a general background of institutional and structural continuity, may be considered fairly optimistic. In other words, the attainment of a more rapid increase in the capacity to import, a considerably higher rate of investment and a more intensive utilization of productive capacity - all essential for achieving a higher general level of living - necessarily implies a complete break with this assumption of continuity, the logical consequences of which we have seen.

The economy of Panama, as has been pointed out on several occasions, has a number of features which, apart from temporary exceptions act as an obstacle to the rapid and balanced growth of the country. In

conditions of exceptional external demand such as appears to have prevailed between the late thirties and 1947, these obstacles have been nullified by the external stimulus or to a large extent eliminated by the exceptional conditions then obtaining.[12/] In the last years of the period the Panamanian economy experienced a fairly rapid growth; but this was possible only because the capacity to import recovered fairly quickly and because both the investment rate and the product-capital ratio climbed back from the low levels to which they had sunk during the depression years. In chapter I this phenomenon was analyzed in some detail, with particular reference to the part played in it by certain changes in the general features of the Panamanian economy referred to above: a new economic policy aimed at encouraging domestic production, the expansion of public expenditure to exceed the possibilities of current financing, the alleviation of the presure on the balboa caused by relative movements of prices in the United States and Panama, etc.

Despite these relatively favourable circumstances implicit in the former projection, it has been seen that there seems no possibility in these conditions of achieving an adequate rate of economic development. To bring about a significant improvement in private per capita consumption, the economy would have to grow at a much more rapid rate.

For this, the capacity to import would have to rise to the highest possible level; but in addition, the other basic determinants of growth would have to improve substantially. Even assuming a higher capacity to import, import substitution would have to be intensified. State participation would play an even more important role than in the previous case. The composition of the gross product by sectors of economic activity would have to change appreciably, and the structure of imports would be completely transformed. In these circumstances the assertion that a process of economic development such as that presented in this hypothetical illustration necessarily implies the removal of the main obstacles to growth can come as no surprise. The aggregate projection of an economic development hypothesis outlined below, and its break-down

12/ See chapter I, section I. 1.

/in chapter

in chapter IV by sectors and principal products, are in fact designed solely to illustrate the important and complex changes which must be made in the conditions and trends of the Panamanian economy if an intense and balanced process of economic development is to be achieved.

Problems of this nature are normally dealt with by recommending a series of economic policy measures designed to produce a particular effect. In this case, however, the first step taken to establish an illustrative target for the growth of per capita consumption. Then the possibilities of increasing exports of goods and services are examined in the light of Panama's resources and the prospects of external markets. Lastly, the remaining conditions which must be fulfilled to achieve the target - i.e. the necessary rate of investment and product-capital ratio - are defined. The aggregate projections thus constructed are then converted (in chapter IV) into specific projections for economic sectors and indeed for each of the main products. In other words, an advance model is built up of what the Panamanian economy would be in 1966 if the targets set were achieved. In this way, a complete and harmonious frame of reference for future requirements is constructed, and against this background an integral programme of economic development is formulated.

It is not proposed in this study to enter this final phase of programming technique; this is the task of the executive authority in Panama. Nor is it intended that the illustration of a hypothetical process of development of the Panamanian economy should serve as a direct basis for the formulation of such a programme. The only end in view is to present a suitable methodology by means of which the task of programming economic development can be placed on a permanent footing. Both the projection of probable trends and the projection of a growth hypothesis are based on a detailed and over-all analysis of Panama's economy, and they offer an advance view of the most likely trends and the possible evolution, respectively, of the Panamanian economy in the decade 1957-66.

2. Obstacles to economic development

The projection of the economic development hypothesis implies a maximum possible increase in the capacity to import, the investment rate and the product-capital ratio. It has already been pointed out that

these basic variables, which are of fundamental importance for development, are prevented by certain institutional and structural conditions from attaining even in the best conditions values more favourable than those of the projection of probable trends. Before constructing the model corresponding to the economic development hypothesis, therefore, it would seem useful to give some study to the more important aspects of these institutional and structural conditions, without of course seeking to make an exhaustive analysis of the obstacles to the growth of the Panamanian economy. It has already been stated that the nature of the problems in question and the difficulties of defining them in quantitative terms prevent such an analysis. However, in view of the special character of certain of these problems and their undoubted importance for the correct assessment of the present situation and future prospects of Panama's economy, it will be well to examine their most salient features, if only in a preliminary and general way. The comments which follow should be regarded merely as an initial approach to an analysis of these aspects of the Panamanian economy.

a) The characteristics of the monetary system

One of the most complex and characteristic elements of Panama's economy is perhaps the operation and peculiar institutional structure of the monetary system. The Monetary Convention signed in 1904 between the Governments of Panama and the United States established a system which in practice has acquired the following characteristics of interest for the purposes of this study: (a) the country has no monetary authority with discretionary powers for the effective control of the supply of money in circulation;[13/] (b) the unit of currency - the balboa - is equivalent in terms of fine gold content to the United States dollar; (c) United States currency in fact constitutes the circulating medium of Panama; and (d) the main factors which determine the fluctuations in the circulating medium are changes in the balance of payments.

13/ The Convention restricted Panama to the issue of fiduciary currency in silver coins of small denominations on a scale not greater than the total quantity of money in circulation in the country in 1904.

As may be seen, the structure of Panama's monetary system is closely related to the traditional pattern of its economy. The operation of the system serves mainly to ensure monetary stability and exchange parity, two factors which are essential for the fulfilment of Panama's role as a focal point for international goods and passenger traffic and for facilitating commercial transactions with the Canal Zone. In order to safeguard these features of the monetary system, the latter is based on the United States dollar, in practice Panama's sole medium of exchange. As the fluctuations in this monetary base depend on the quantity of goods and services exported and on import expenditures - a similar role, of course, is played by capital receipts and out goings and by transfers - the external sector is the principal determinant of the magnitude of and fluctuations in the medium of circulation. In these circumstances, as in the case of the orthodox model based on the gold standard, monetary stability signifies merely the maintenance of parity between the balboa and the dollar or its gold equivalent, and net fluctuations in the balance of payments are offset by adjustments in the level of internal economic activity. An additional consequence of the system is that the public sector cannot incur a deficit, and hence its capacity for anti-cyclical action is extremely limited.

As was stated in chapter I, during the war and the subsequent decade, the economy of Panama diverged considerably from its traditional lines of orientation. Internal productive activity began to increase, and the agricultural and industrial sectors expanded remarkably. The main causes of this process were internal demand and limitations on external supply; but the changes which took place in the level of relative costs, in certain institutional characteristics and in economic policy also played a vital role. In so far as its traditional pattern permitted, the same thing happened with the monetary system. Official banking institutions placed greater emphasis on the financing of agricultural and industrial production, breaking out of the narrow bounds of mortgage credit. Private banking institutions specializing in short-term commercial credit, (including foreign banks) began a

tentative policy of extending credit to goods-producing sectors. Nevertheless, the basic characteristics of the system persisted: given its institutional framework and the structural problems of the economy, monetary policy was unable to transform itself sufficiently to stimulate a process of vigorous and balanced economic development during the next decade.

To enable both the public and private sectors to set aside the resources required in this case for capital formation the monetary system would have to fulfil the function of mobilizing and increasing savings, and of guiding them into the right channels - which probably it is not in a position to do. Monetary policy would of course have to be basically determined by the financing needs of internal economic development, and not by the changing conditions of the balance of payments. The specific requirements of an economic development programme, as regards both financing by private firms and the support of the Government's expenditure policy, could not be met if monetary policy were diverted primarily towards maintaining an equilibrium in the balance of payments or, more exactly, if the state of the balance of payments determined monetary policy. This in no way means that equilibrium in the balance of payments and the maintenance of exchange parity are not important or necessary. In a country like Panama, in view of the very special characteristics of the most important sector of its external demand and other structural factors to be analysed below, these conditions are possibly essential for the attainment of an orderly process of economic development.

b) The stimuli

(b) Stimuli to investment

While the use of monetary policy as an instrument of financing is indispensable for the acceleration of growth, the existence of incentives to private investment is perhaps the crucial factor for the initiation of a cumulative process of development. The equivalence between the Panamanian unit of currency and the dollar, which, as will be explained, results in what has been called the over-valuation of the balboa, is responsible, at least in part, for the absence or weakness of such incentives. Nevertheless, the main obstacles to economic development are the structural characteristics of the Panamanian economy, as a result of which even the weak incentives which emerge cannot express themselves in the form of investment and production.

In an economy as open and as firmly integrated with international trade, as Panama's domestic producers have very little possibility of competing on foreign markets or of displacing imports from the home market. Panama's lack of monetary autonomy and consequent dependence on the monetary system of the most productive country in the world - the United States - force its producers to compete on equal terms with their American neighbours. While other nations protect their domestic production with exchange and custom barriers which raise the prices of imports in terms of internal purchasing power, the exchange parity between the balboa and the dollar limits the protection enjoyed by the Panamanian producer to freight costs and customs tariffs. In view of the re-exporting role which has traditionally characterized Panama, such tariffs have to be relatively low and as a result the margin of protection afforded to Panamanian producers has been limited almost exclusively to transport costs.

In these circumstances, only the exceptionally productive sectors of the Panamanian economy have been able to compete on the external market. On the other hand, output for the internal market has been reduced to a few basic items which have been able to prosper in spite of the meagre protection offered by freight costs or which have enjoyed the natural protection of perishability. This is the only possible explanation of the exceptional structure of Panama's export trade and the backwardness

/of its

of its domestic production system up to the late thirties.[14]

So far as the export trade is concerned, it has already been stated that the principal sector of Panama's external demand (representing 50 and 60 per cent of the total since 1950) lies in purchases of goods and services effected in Panama by Canal Zone agencies and residents. A very small share of these sales, probably less than 10 per cent, is accounted for by exports of consumer goods produced by the Panamanian economy itself; the major portion consists in the provision of services - especially personal services - and re-exports of goods. In other words, the Canal Zone's purchases in Panama are limited almost exclusively to goods imported to Panama for re-export or to services which cannot be imported from other countries or obtained in the Zone itself.

The income derived from transit and tourist transactions has represented in recent years about 15 per cent of total external demand. The major part of this income is also derived from the re-sale of imported goods or from the provision of services to transients, whose passage through Panama is mainly due to the geographical position of the Isthmus. Only tourist expenditure, which represents no more than a quarter of this income, may be regarded to some extent as an external demand attracted by the Panamanian market. But it must be remembered that many tourists merely take advantage of their passage through the Canal or of a landing on the Isthmus from the air to stay one or two days in the country.

The great bulk of exports originating in Panama consists of bananas, abaca and cacao, which are produced almost exclusively by a large and modern foreign agricultural undertaking. This firm maintains a scale of production and a level of technology and is characterized by a capital density which set it far apart as regards the general level of Panamanian agriculture. Consequently, only exports of cacao (part of the crop), shrimp, timber, sugar, cement, and other minor products - making up less than 20 per cent of the quantum of registered exports - really represent the domestic productive system. If some share of tourist expenditure and the sales of domestic goods to the Canal Zone are added, it will be seen

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14/ This situation is illustrated in greater detail in chapter I, section I.1.

that the combined total of exports which may be considered as representative of the country's general level of productivity probably does not attain even a tenth part of Panama's total capacity to import.

It is also very important to stress that the most dynamic trends of external demand, as is shown by the analysis in this chapter of the prspects of the capacity to import are to be found precisely in exports of new products or of products only recently exported, and in the tourist trade. The normally most important items of foreign demand - the Canal Zone, traditional exports, and re-exports - show on the other hand a stationary or unfavourable trend. The first manifestations, after the war, of these two divergent tendencies were followed inter alia by the initiation of a policy of encouraging domestic production and of giving it greater protection against imports. Shielded by this protection, farm and industrial output expanded appreciably and set off an important, even if only incipient, process of import substitution.

From the point of view of economic development requirements, import substitution does not necessarily rule out the expansion of exports. This is particularly true in a country having no capital-goods industry, with scanty resources of raw materials and mineral fuels and a relatively small domestic market. In these circumstances, and intensive process of development would necessitate a marked expansion of imports of capital goods, raw materials (especially fuels) and, given the size of the market, consumer durables which cannot be produced economically in Panama.

Consequently, an intensification of the import substitution process and particularly an increase in the capacity to import are objectives which must be achieved if the rate of growth is to be accelerated. In view of the dollar exchange parity, these objectives would involve the problem of stimulating production aimed at import substitution and production for the external market, either by producing production costs or, in the case of production aimed at imports substitution, by tariff protection. For the purpose of encouraging exports, protection would fail to provide a stimulus unless it were accompanied by a revision of the exchange rate or a subsidy on exports. Of course, the alteration of the exchange rate

/need not

need not for the purposes of this argument be formal. What is important is that the monetary costs of production in Panama should be reduced in terms of the monetary costs of production abroad, particularly in the United States. This can occur and has in fact occurred without the formal devaluation of the balboa. It only needs the general level of monetary costs and prices to rise more rapidly in the United States than in Panama for imported articles to become dearer as compared with the competing domestic products, while Panamanian export products become cheaper abroad. A process of this kind as has been pointed out, seems to have had a very stimulating effect on Panamanian production in the late forties.15/

However, the general level of prices and costs in Panama will most probably follow a trend similar to that prevailing in the United States,16/ and accordingly a recurrence of this accidental stimulus to exports cannot be relied on. Hence, the only alternative is a relative reduction in the monetary costs of production by means of a policy aimed at a general increase in productivity. As already pointed out, the formal devaluation of the balboa or the inauguration of export subsidies would be other methods of encouraging exports. But in an economy like Panama's the adoption of such measures would involve formidable institutional problems. Moreover, they would not achieve the desired effects and would undoubtedly have the effect of bringing about a regressive redistribution of income. As will be seen below, monetary stimuli to production - whether for export or for the domestic market - are unlikely to achieve an increase in production but very likely to constitute a source of excessive profits for the more efficient producers.

The fundamental factors underlying the low productivity of the Panamanian economy are, as in most under-developed countries, the structural elements which constitute the main obstacles to growth. First and foremost among them is Panama's extreme lack of basic social capital.17/ The limitations

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15/ See chapter I, section II.4.b.

16/ For an explanation of this phenomenon se chapter III, section II.2.b.

17/ See chapter I, section III.4.d and e.

and deficiencies of the national road system are perhaps the greatest obstacle to any increase in farm productivity and the great scarcity and very high cost of sources of inanimate energy also contribute to a large extent in keeping down the level. Both factors also inflate the costs of industrial production by limiting the size of the market and necessitating investment for the provision of essential services. In addition, Panamanian industry is based largely on the utilization of primary agricultural products which, for reasons already indicated and others which will be explained below, are extremely costly. The primitive level of the techniques used in agriculture are another cause of the low productivity in this basic sector. The failure to apply such elementary methods as breaking up the land, the inefficient distribution of land resources among the various crops, the large proportion of agricultural activity which remains outside the monetary sector of the economy, the absence even of draught animal, the persistence of semi-nomadic farming and minifundia and deficiencies in the land tenure system are among the technological and organizational features of agricultural production which basically explain its poor productivity and high cost.[18/] This unfavourable situation is aggravated by the defective and costly farm products marketing system, one of the main causes of which, again, is the lack of adequate means of transport.

The failure to integrate the Panamanian economy into a single market for goods and productive factors - which in any case would be small - aggravated by the serious lack of basic social capital, tend to make national production, especially in the agricultural sector very inelastic. In these circumstances, productive resources cannot react to stimuli from demand, which acts as an obstacle to their better utilization. In other words, the barriers to the mobility of the factors of production limit their alternative utilization in response to the changing requirements of demand, and thereby hamper the process of the optimum distribution of these resources. The result is that their productivity is very low and the real

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18/ For a more detailed explanation see chapter I, section III.4.a.

costs of production extremely high. Clearly, therefore, these structural conditions prevent the stimuli of demand and prices from being translated into new investment aimed at enlarging productive capacity. In the case of goods protected against foreign competition, such stimuli would merely push up prices and hence the profits of already established producers and middlemen. In the case of goods not so protected, imports would increase. It should be pointed out in this connexion that in an economy which is very open to international trade and in which the price level is considerably influenced by that prevailing in the United States, changes in relative prices cannot always fulfil the function - which they normally perform in a market economy - of guiding productive resources into the right channels.

(c) The size of the market

The obstacles to Panama's economic development are not confined to the monetary problems and infrastructural deficiencies just outlined. The limited size of the internal market - a concept which covers a multitude of different aspects - is another of the main factors inhibiting growth.

In nominal terms, a country's market is defined by national expenditure on goods and services, its main determinants being the size of the population and the per capita gross product. From this standpoint, Panama, with a population in 1956 of less than one million and a per capita gross product lower than 350 balboas, has one of the smallest markets of all the Latin American countries. This situation is aggravated by a series of factors which seriously limit even the nominal size of the market. Although subsistence agriculture is included in the gross product, this sector does not really participate in transactions conducted within the monetary market and hence does not exert an effective demand for goods and services.[19] Similar considerations apply to Panama's main urban centres: owing to large-scale unemployment and under-employment many town-dwellers, while they receive monetary incomes, also live at the subsistence level.

19/ Ruben D. Charles, Jr., Problemas en el desarrollo económico de Panamá, Lecture delivered in the University of Panama, October, 1954, p. 6 passim.

The importance of these phenomena becomes very clear when it is remembered that the agricultural sector predominates by far in the country's demographic structure. According to the 1950 Population Census, almost two-thirds of the total population were living at that time in rural areas and about sixty per cent of the agriculturally active population were to be found in the category of subsistence farmers (campesinos) This fact alone probably means that about two-thirds of Panama's population is of negligible significance as a market for domestic products. Furthermore, the average income of the rural population in general, including that part of it integrated into the monetary sector of the economy, is fairly considerably lower than that of the urban population.

The extent of under-employment in towns cannot be determined, although the unemployment figures give a rough idea of the magnitude of these problems. Table I-27 showed that in 1950 the proportion of unemployed in the provinces of Panama and Colón reached the figure of 16 per cent. Although this was a depression year, subsequent inquiries would appear to indicate that the problem has not become less acute.[20/] If the total urban under-employment, already mentioned, could be added to this figure, an even clearer picture would be obtained of the serious restrictions imposed on the urban market by the structural problem of unemployment and under-employment in the main towns.

Another important factor which may limit nominal demand is the distribution of income. Of course, the phenomena just described are of decisive influence in determining the form of this distribution, since: (a) perhaps about 50 per cent of the total population live in subsistence conditions; (b) about a third of the population - living in the rural areas but within the monetary market - have an average income much lower than the national mean; and (c) about a fifth of the population consequently enjoy an income level several times higher than that of the economy as a whole.

These points are borne out by the break-down of income in the main urban centre of Panama. The data available on this subject are not completely satisfactory, but they give some idea of the low annual incomes

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20/ Statistical and Census Department, Registro de desocupados: julio de 1956, Panama, 1958, p. x.

received by most of the population of Panama City. More than one third of the families - those covered by the first three income brackets - receive an annual average income of 1,253 balboas or less (see table II-6). The first five income brackets cover two thirds of the total number of families, the average annual income being less than 2,250 balboas, i.e. under 200 balboas a month. 21/ Such is the situation in Panama City, the most important urban and industrial centre, where the average levels of living are undoubtedly the highest in the country.

These data and estimates indicate that a high proportion of the population receives a relatively small share of the national income while a small high-income sector absorbs a very large share. In other words, while there are a large number of persons whose fundamental food and clothing needs could generate a significant demand for footwear, apparel and processed foodstuffs, their purchasing power is so low that these needs are not even expressed on the market. Moreover, the market demand for better quality goods comes from such a small segment of the population that it does not permit the operation of productive installations of adequate size.

The size of the market is affected by yet another factor, in this case of an institutional nature. This is the Panama Canal Zone, whose importance for the country, as a market for goods and services and for factors of production, is analysed in other sections of this study. 22/ Although it is a stationary market, especially from the point of view of the employment of Panamanian labour, the Zone offers ample opportunities for the substitution by Panamanian products of goods which are at present imported.

(d) The level of monetary costs

Another characteristic feature of Panama's economy is the high level of costs. While in other under-developed countries, especially those with a population surplus, low wages make up for the low productivity of the economy as a whole, the relatively high monetary wages which prevail in Panama, particularly in the main urban centres, prevent this compensatory

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21/ The data in the table should not be interpreted as an indication of the concentration of income in Panama City, since they do not include families with annual incomes of more than 13,000 balboas. Furthermore they exclude unemployed persons and therefore do not adequately reflect income distribution in the capital.

22/ See chapter I, section II.3.e and chapter III, section IV.

Table II-5

PANAMA: DISTRIBUTION OF FAMILY INCOME IN PANAMA CITY a/

| Annual family income group | Number of families | Annual average income | Annual total income | Number of families | Total annual income (percentages) |
|---|---|---|---|---|---|
| | | (Balboas) | | | |
| Less than 500 | 9 | 359 | 3 231 | 2.0 | 0.3 |
| 500 - 999 | 62 | 789 | 48 918 | 13.8 | 4.7 |
| 1 000 - 1 499 | 92 | 1 253 | 115 276 | 20.5 | 11.0 |
| 1 500 - 1 999 | 83 | 1 732 | 143 756 | 18.5 | 13.8 |
| 2 000 - 2 499 | 51 | 2 245 | 114 495 | 11.4 | 11.0 |
| 2 500 - 2 999 | 50 | 2 705 | 135 250 | 11.1 | 13.0 |
| 3 000 - 3 999 | 45 | 3 466 | 155 970 | 10.0 | 14.9 |
| 4 000 - 4 999 | 26 | 4 427 | 115 102 | 5.8 | 11.0 |
| 5 000 - 5 999 | 15 | 5 405 | 81 075 | 3.3 | 7.8 |
| 6 000 - 6 499 | 9 | 6 618 | 59 562 | 2.0 | 5.7 |
| 6 500 and above | 7 | 10 123 | 70 861 | 1.6 | 6.8 |
| Total | 449 | 2 324 | 1 043 476 | 100.0 | 100.0 |

Source: Statistical and Census Department, Estudio de los ingresos, gastos y costo de la vida, Ciudad de Panamá, 1952-53 Panama, 1955 second revised edition, page 48, table 28.

a/ The sample includes only families with annual incomes up to 13 000 balboas.

/effect. This

effect. This factor of high monetary costs is of especial importance from the point of view of external competition, since it tends to discourage exports and production aimed at imports substitution. As will be seen below, these high rates of pay derive from certain structural characteristics of the Panamanian economy. The fact that monetary wages are high from the point of view of production costs in no way means that the living conditions of the wage-earning classes are satisfactory; analysis of the income distribution indeed suggested the contrary. How is it, then, that poor living conditions go hand in hand with high wages?

One of the most interesting and least studied phenomena arising from the existence of the Canal Zone is its influence on the local labour market. As has been pointed out in other parts of the study,[23] the Zone is an important source of employment for Panama. Its relative size may be judged by comparing the number of employed persons in the Zone with the total "employed persons" throughout the country, since only persons who receive a monetary wage should strictly speaking, be considered as part of the labour market. In this case, the proportion of persons working in the Canal Zone in 1950 amounted to 18.3 per cent; but if the comparison is restricted to the total number of persons employed in that year in the cities of Panama and Colón - which in fact constitute the labour market for the Canal Zone - the proportion rises to 26.8 per cent.[24] However, the importance of the Canal Zone as a source of employment is still greater in certain specific occupations, such as construction. In 1950 some 3,500 persons were engaged in this activity in the Canal Zone, while the approximate figure for the rest of the country was 6,700; in other words, the proportion of construction workers employed in the Zone was one-third, a figure which rises to a half if the comparison is confined to the total number of construction workers employed in urban localities in the provinces of Panama and Colón. The data collected for the 1950 Population Census

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23/ See chapter I, section II.3.c.

24/ The data cited and used below were obtained from: Statistical and Census Department, Censos Nacionales de 1950, Quinto Censo de Población, Vol. III, Características económicas, Panamá, 1954.

/show in

show in addition that in sectors of activity and specific occupations where the proportion of Canal Zone workers is greater, the average level of remuneration is fairly considerably higher than that prevailing in other sectors or occupations (see table II-7). This is the more interesting because in several of the sectors in question - construction, the Canal Zone itself, public services etc. - there was a wide margin of unemployment in 1950.

The facts which have just been summarized indicate that the level of wages in the Canal Zone is higher than in Panama, and that it affects the Panamanian labour market through the occupations in which the relative share of employment in the Zone is greater. The data also reveal that wage rates are very rigid, since despite the high proportion of unemployment no readjustment or levelling of rates takes place.

The labour market in the cities of Panama and Colón is therefore exposed to two types of pressure. On the one hand, the influence of wages paid in the Canal Zone tends to raise the general level of urban wages. On the other hand, the existence of a population surplus in both town and country operates in the reverse direction. Thus, the Canal Zone and subsistence levels constitute the extreme limits within which urban wage rates in Panama fluctuate. Obviously, the demand for labour in the Canal Zone, as has just been pointed out, is felt more strongly in certain occupations than in others, so that the negative pressure of the population surplus is more intense in these other occupations. This is perhaps the main reason for the marked differences in average remuneration observed among the various types of urban employment.

The high and indeed rising wage rates which, for institutional reasons, prevail in the Canal Zone push up the average level of remuneration paid in the cities of Panama and Colón - in spite of the negative pressure of the population surplus and the contraction in the labour force of the Zone - because the rotation of workers in the Zone, the engagement of personnel for special works, the seasonal nature of employment and the very fact of the existence of high wages maintain expectations of well-paid employment among Panamanian workers.

This influence of the Canal Zone on urban wages is not new. It

/Table II-7

Table II-7

INFLUENCE OF EMPLOYMENT IN THE CANAL ZONE ON AVERAGE WAGES

| Number of occupations a/ | Persons employed in Canal Zone expressed as a percentage of total labour force employed in Panama and Colon districts | Average wages paid in Canal Zone expressed as a percentage of average wages paid in the Panama and Colon districts |
|---|---|---|
| 10 b/ | 50 and above | 99 - 102 |
| 14 c/ | 25 - 50 | 102 - 118 |
| 9 d/ | less than 25 | 123 - 149 |

Source: Statistical and Census Department, Censos Nacionales de 1950, Quinto Censo de Población, Vol. III, Características económicas (Panama, 1954).

a/ A sample of forty-five occupations was used. Twelve were eliminated as representing office posts (carrying very similar rates of pay) and other types of employment remunerable partly in kind, for which the census data were inadequate.

b/ Covers the following occupations: stevedore, repair mechanic (others), seaman, painter, carpenter (building), storekeeper, mechanic (electric motors), chauffeur, unspecified, plumber-electrician (building).

c/ Covers the following occupations: delivery man, watchman, motor-vehicle mechanic, gardener, bricklayer, office clerk (others), short-hand-typist, machine-operator (other than engine-driver), warder, ironing woman (laundry), typist, baker, office messenger, cabinet-maker.

d/ Covers the following occupations: cleaner, washerwoman (family), seamstress, waitress (restaurant), maid (family), cook (family), barman, school-teacher, policeman.

/probably dates

probably dates from the first plans for the Canal; and more recently, it must have recurred in more intensive form at periods of high employment. During the most recent such period - the Second World War - the shortage of labour in the domestic market was exceptionally acute, and wages reached very high levels.[25] To some extent these levels were probably maintained subsequently, since there are certain legal provisions prohibiting the reduction of wages and thus tending to convert temporary increases into permanent ones.

The influence of the Canal Zone on urban wages was strengthened and amplified by the protection accorded during and after the Second World War to domestic agriculture, especially food production.[26] The intensity of demand and particularly the low productivity of the farm sector - or in other words its high real cost of production - meant that the import substitution of foodstuffs which developed at that time was necessarily accompanied by an appreciable increase in the general level of prices. As a result, the prices of most foodstuffs rose to levels considerably higher than those prevailing in the international market or in the United States. In the later years of the period, because of the high proportion of their incomes which the low-income groups spend on food, this became another factor tending to force up monetary wage levels. Even if this factor did not exert pressure on the high wages paid in occupations in which the influence of the Canal Zone is decisive, the average wage level must have risen, not only because the increased cost of food affected the wages of all the remaining occupations but also because even the subsistence costs of unemployed and under-employed persons rose too.[27]

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25/ See chapter I, section II.3.c. The increase in wages was so great that an agreement was reached between Canal Zone agencies to prevent competition among themselves.

26/ A detailed analysis of this phenomenon may be found in chapter I, sections I.1 and III.4.a.

27/ The high wage-costs and the presence in the Canal Zone of one of the most advanced expressions of United States technology - characterized by a very high capital density per man - seems to have produced an emulative effect on the production techniques and methods used in certain urban activities. This is particularly noticeable in some sectors of commerce and in construction. In spite of Panama's population surplus, with the acute urban unemployment it entails, highly capitalized and labour-saving methods are used to a certain extent, this latter being impossible to determine. Although the magnitud of this problem cannot be expressed in numerical terms, the lack of employment

The protection accorded to agriculture and import substitution activities raised costs of production not only because of its effect on wages - an effect to a certain extent already inherent in the Panamanian economy because of the influence of the Zone - but also because it boosted the prices of agricultural raw materials - practically the only raw materials available for Panama's industrial development.

This analysis shows that the high wage levels prevailing in Panama result basically from the influence of the Canal Zone and from the protection extended to domestic production, especially in the farm sector. Obviously, the first factor is inevitable: as productivity in the Zone continues to expand and wage rates in the United States go on rising the remuneration of Panamanian workers will follow the same trend.[28/] The second factor - protection - cannot be viewed merely in terms of its effect on prices and wages. General measures of economic policy always have multiple repercussions; they cannot therefore be properly judged on the basis of narrow criteria. The influence of protectionist policy on wages has to be examined, in fact, in the light of the general purposes of economic policy. Such an examination is the more opportune in that the projection of an economic development hypothesis for Panama to be carried out in the next section necessarily presupposes a certain degree of protection granted to domestic production.

Before beginning this examination, it should be pointed out that the foregoing analysis dealt with wages only as an important element in production costs. From the point of view of demand, high wages enlarge the market directly and indirectly, through their positive effect on income distribution. In this respect they are a factor for growth. The experience of the forties is eloquent: the purchasing power accumulated in years of high wages and full employment helped to encourage the development of domestic production up to 1946-47 and then mitigated the depressive effect of the contraction in external demand.

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28/ According to the projections made by the Panama Canal Company, wages will rise during the next decade at a rate of 3 per cent per year. See chapter III, section IV.2.b.

(e) The significance of protection

The protectionist policy of an undeveloped country may be properly judged only from the point of view of its contribution to economic growth. In a country like Panama, the prospects for whose future development are not very favourable,[28] the alternative could be expressed in the following terms: is protection necessary for economic development or, on the contrary, must it be abolished before growth can take place? This latter alternative, which is in line with the policy Panama had traditionally followed in the past - without however achieving a satisfactory rate of development until the end of the thirties - implies the following argument: if protection were abolished monetary wages would fall; and with the improvement of competitive conditions resulting from the elimination of anti-economic activities the country could develop new sources of exports which could be exploited intensively thanks to the privileged geographical position of the Isthmus.

This argument is basically unsound, and, as has been indicated, it is conclusively refuted by history. A reduction in monetary wages - which in practice would be almost impossible - would not have the desired stimulating effect because the basic problem is that real costs of production are very high. The defects, in Panama's economic infrastructure and the consequent rigidity of its productive system are the decisive causes of the lack of stimuli to production. In these conditions, only exceptionally productive sectors - for example, modern banana production - can face foreign competition. Furthermore, external demand, even on the most optimistic assumptions, offers extremely limited prospects. Worse still, it is precisely the activities in some way related to Panama's geographical situation which - with the notable exception of the tourist trade - reveal the most unfavourable trend. A stagnation or contraction of the external demand for services would aggravate the already acute problem of urban unemployment, while uncontrolled imports of foodstuffs at international prices would condemn most of the rural population, i.e. about two thirds of the total

28/ See the projection of probable trends section II.2 of this chapter.

/population, to-

population, to a subsistence level of living. As may be seen, a reduction in the level of prices, far from raising the general standard of living, would have the opposite effect. If the situation is viewed from a dynamic standpoint, two further important facts stand out. Firstly, Panama's general level of living would tend to deteriorate progressively because of the rapid rise in the population. Secondly, the extreme dependence on external demand which would result from the general orientation of the economy would cause great instability in employment and incomes because of the resultant sporadic stimuli to and contractions in the capacity to import.

Nor can it be said that protection is a certain guarantee of economic development - although it can undoubtedly stimulate it. This latter is particularly true of Panama, which suffers from a considerable degree of unemployment of the factors of production. In these circumstances a limitation of or rise in the cost of certain imports may offer local producers the opportunity of producing goods which replace or compete with them. The creation of new activities would permit the incorporation into the productive system of a certain margin of idle resources, thus adding to the gross product. Despite the rise in the price of the imported article or the higher price and perhaps lower quality of the domestic substitute, the country as a whole would experience a net gain, in terms of both employment and the standard of living.

The consumer of the articles in question would of course suffer a reduction in his real income - this being the most visible effect of protectionist measures. But this reduction in real income in the section of the population which consumes imported goods or their substitutes does not constitute a loss for the economy as a whole. To the extent that protection encourages greater investment and employment of idle resources, the increase in monetary expenditure is merely transferred to other sections of the community, particularly to workers taken on by the new undertakings. As expenditure on consumer imports would be reduced, the corresponding purchasing power would not filter away overseas but would give rise successively to new types of income and expenditure within the domestic economy, thus activating internal

demand and, as already mentioned, increasing the gross product. If this is greater than the demographic increase, the average level of living inevitably also rises.

It is this latter fact which is really important. A drop in prices does not necessarily produce an improvement in living conditions: some individual consumers may benefit, but the real incomes of most of the people contract, because a general fall in prices almost inevitably has a depressive effect. Improvements in standards of living, on the other hand, are recorded during periods of rising income - which normally bring with the moderate increases in prices. For the economy as a whole, therefore, the factor which determines the general level of living, particularly over the long term, is the size of income rather than changes in prices.

As has been pointed out, a protectionist policy is really a way of redistributing income. In the case of Panama, the favoured sections of the population, generally speaking, would be the unemployed and the rural population. The employed urban population, and particularly persons with a high propensity to import, would suffer a loss of part of their real income. The market would therefore expand precisely in those sections now most responsible for its limitations; and therein lies the importance of protection as a stimulus to production. But stimuli to economic development through demand would be unable to exert their full positive influence unless the deficiencies in the economic infrastructure were previously or simultaneously overcome; the inelasticity and high real cost of production would continue to be overriding problems, despite the stimuli created by protection.

/3. The

3. The basic assumptions of the aggregate projection

The aggregate projection of probable trends showed that if the basic characteristics of Panama's economy persisted the country's growth could be brought to a halt. The monetary system, the lack of investment incentives, the high costs of production, the narrowness of the market and other such factors would prevent the determinants of economic development from reaching the desired magnitudes. If there were no change in these basic features of the Panamanian economy, capacity to import, the rate of investment and the product-capital ratio could not exceed the quantities indicated in the projection of probable trends. In that case, the level of living of the population might remain stationary or even fall.

The aggregate projection of an economic development hypothesis, on the other hand, is based on the assumption of a rise in the average level of living. Given this assumption and the figures which the capacity to import and the product-capital ratio might attain in more favourable basic conditions, an estimate can be made of the extent to which the rate of investment would have to rise and the consequent degree of expansion in the gross product. Once these over-all requirements have been determined, sectoral and import-substitution projections are constructed (chapter IV), and in this way numerical estimates are finally made of the structural changes and the other requirements which would be entailed by the rise in the general standard of living.

For this illustration a rise of 2.0 per cent per year in the general level of living, i.e. in per capita private consumption, has been considered adequate. This does not mean that such a rate should be considered satisfactory; but it would perhaps be unreasonable to assume a higher figure. As will be seen below, this increase requires efforts which might appear excessive even from a strictly economic viewpoint; it should not be forgotten that it implies an annual increase of nearly 5.0 per cent in total private consumption, since the population is expected to grow at an approximate rate of 2.9 per cent annually.

The second basic element in the projection is the capacity to import. In chapter III an attempt is made to determine the potential size of external demand if the structural and institutional obstacles to its

/expansion were

expansion were removed to the utmost extent possible and if Panama made an all-out effort to win new markets abroad. The result of this analysis is hypothesis "B" on the capacity to import, according to which Panama's external demand might increase by 44.6 per cent in the decade 1956-66, to a figure of 133.6 million balboas. The corresponding annual rate of growth would be 3.7 per cent. The bulk of the increase would come from exports of new products and from an appreciable expansion of tourist activities, while the traditional sectors of external demand would stagnate or even contract.

The external demand projection also permits a hypothesis on the probable trend of the gross product generated in the Canal Zone. According to this, the value of services rendered by Panamanians in that area would decline by almost 13 per cent.

The projection of the capacity to import also defines the magnitude of the terms-of-trade- effect in 1966. Under hypothesis "B", this factor would reach a value in that year of 8.0 million balboas.30/

As in the projection of probable trends, and for similar reasons, it has to be assumed that the balance of payments will remain in equilibrium. It is possible to assume that imports might to some extent exceed the capacity to import, the surplus being financed by an inflow of foreign capital; but if the disequilibrium in the current account is kept within reasonable bounds, the size of the net entry of capital will not alter the projection significantly.

For the product-capital ratio, an average coefficient of 0.46 during the next decade has been assumed. The partial data available on the development of the product-capital ratio in the past suggest that a similar level may possibly have been reached in periods of exceptional economic activity. The assumption adopted implies an increase of 15 per cent over the coefficient used in the projection of probable trends. This increase appears acceptable if it is considered that under the terms of the present projection the size of the Panamanian market would expand appreciably, that monetary policy would be directed along new lines and that the public sector would create strong stimuli to economic development both by stepping up

30/ For a detailed analysis of the projection of external demand see chapter III.

its expenditure and providing protection against foreign competition and by enlarging the basic social capital. All these factors would directly help to augment the utilization of productive capacity.

It would not seem desirable to assume a higher coefficient. It has to be borne in mind that the figure selected represents an average ratio for the whole decade and that the product-capital ratio will continue to rise only to the extent that the basic structural problems described above are overcome. Furthermore, a coefficient of 0.46 is similar to the average registered during the last decade in Latin America as a whole and in such countries as Mexico and El Salvador, and is higher than that estimated for Colombia, Bolivia and Argentina (see again table II-2).

The rate of capital depreciation would be 3 per cent. The same assumption will be used as in the projection of probable trends for the reasons indicated in that connexion.

On the basis of the foregoing assumptions, it is estimated that the gross product - exluding the Canal Zone - would have to rise at an annual rate of 6.8 per cent, i.e. a total increase of 92.2 per cent in the decade 1956-66. This same estimate requires a rate of gross capital formation of 21.2 per cent in relation to the gross product (excluding the Canal Zone).[31/]

In order to obtain independent projections of public and private investment, the latter was estimated as a function of the projected capacity to import and of the regression equation relating these factors (see again figure II-1). On this basis, private investment would almost double between 1956 and 1966, but public investment (obtained by subtracting private from total investment) would more than quadruple.

The final item in the pattern of total supply and demand is consumption in the public sector. It was assumed that the share of

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31/ The increase in the gross product (excluding the Canal Zone) and the gross investment rate necessary to meet the needs of the aggregate projection of economic development were estimated by combining the growth equation used in the former aggregate projection (see footnote 5, chapter II) with that defining the equality of total supply and demand (see table II-8). The roots of the system of equations were obtained by successive approximations.

public in total consumption - during the period 1950-56 an average of 13.2 per cent - would be maintained constant. As this percentage had risen slightly in 1956, the projection of public consumer expenditures shows a rate of growth slightly lower than that of private consumer expenditure: while the former was projected with an annual rate of growth of 4.6 per cent, the figure for the latter was 4.9 per cent.

4. General review of the results of the economic development projection

The economic development projection implies very important changes in the various components of total supply and demand. In table II-8 their possible magnitude in 1966 can be compared with the figures for 1956. It will be useful to review briefly the efforts which would be required if the objective were established of raising the general level of living by 22 per cent during the next decade. It will then be possible to appreciate in general terms the logic of the process projected.

Given the probable rate of demographic growth (2.9 per cent per year), total private consumption would have to increase by more than 61 per cent between 1956 and 1966. It would be impossible to cover this increase from imports. At best - i.e. if the main obstacles to the development of exports were removed and every encouragement were given to export activities - the capacity to import would rise by only 44.6 per cent. On the assumption that the surplus of imports over the capacity to import, which exceeded 12 per cent in 1956, will be maintained in the future, imports might increase on the scale indicated. However, this difference appears excessive when it is remembered that a growing proportion of resources will have to be used for servicing the external public debt. Moreover, for the reasons previously explained, Panama may possibly be unable to attract a very large flow of foreign capital. Although this projection is based on the assumption that stronger stimuli will be given to private investment than in the case of the projection of probable trends, it should be borne in mind that the Panamanian market is in any case fairly small. In addition, these increased stimuli will be directed mainly to the satisfaction of the internal market, which is the least attractive for the foreign investor.

The likeliest prospect, therefore, is that the current payments account will have to be balanced in the future. In that case, imports would increase only by 29 per cent. As consumption would more than double and consumer goods account for some two thirds of total imports, the increase in private consumption could obviously not be met in this way, which would imply an absolute decrease in imports of raw materials, fuels

/Table II-8

Table II-8

PANAMA: PROJECTION OF THE ECONOMIC DEVELOPMENT HYPOTHESIS

| | 1956 | 1966 | Index (1956=100) | Annual rate of increase between 1956 and 1966 |
|---|---|---|---|---|
| | (Millions of balboas at 1950 prices) | | | |
| Aggregate supply | 429.4 | 738.0 | 171.9 | 5.6 |
| Total gross product | 325.5 | 604.4 | 185.7 | 6.4 |
| Gross product excluding Canal Zone | 305.4 | 586.9 | 192.2 | 6.8 |
| Gross product of Canal Zone | 20.1 | 17.5 | 87.1 | -1.4 |
| Imports | 103.9 | 133.6 | 128.6 | 2.5 |
| Aggregate demand | 447.3 | 749.5 | 165.6 | 5.2 |
| Capacity to import | 92.4 | 133.6 | 144.6 | 3.7 |
| Private consumption | 264.4 | 426.4 | 161.3 | 4.9 |
| Consumption in public sector | 41.3 | 64.8 | 157.1 | 4.6 |
| Gross investment | 49.2 | 124.7 | 253.4 | 9.7 |
| Public sector | 13.0 | 55.0 | 423.1 | 15.5 |
| Private sector | 36.2 | 69.7 | 192.5 | 6.8 |
| Difference between supply and demand | 17.8 | 11.5 | - | - |
| Effect of terms of trade | 6.3 | 8.0 | 127.0 | - |
| Statistical discrepancy | 11.5 | 3.5 | - | - |

Source: Table A-1, and for the projections, see text, chapter II, section III. 3.

/and capital

and capital goods. But a contraction in such imports would reduce income and employment, since Panama has no fuel resources, is short of raw materials and has made little progress in developing its capital-goods industry. Accordingly such a course would be out of the question.

In these circumstances, the consumption increase would have to be met from domestic output. According to the aggregate projections, the total gross product would rise by almost 86 per cent. In order to achieve such a rapid expansion in production - an annual rate of 6.4 per cent - installed productive capacity, raw material inputs and fuel consumption would also have to rise. As the demand for these goods is very buoyant and is met to a large extent by imports, the margin available for consumer imports would be sharply reduced. The sectoral projection carried out in chapter IV, which is based on the aggregate projections now being analysed, shows that consumer imports would fall from 67.4 million balboas in 1956 to 44.2 million in 1966. On the other hand, imports of intermediate and capital goods would rise by 122 and 123 per cent respectively. The share of the former in total imports would thus rise from 23 to over 40 per cent, while that of the latter would increase from 13 to 23 per cent. As a result, the share of imports of consumer goods in total imports would decline from almost two-thirds in 1956 to a little over a third in 1966 (see table IV-24).

Just as a rapid process of economic development produces marked changes in the structure of imports, so also it requires efforts of varying intensity in the various sectors of production. The growth of private consumption at an annual rate of 4.9 per cent will bring about important changes in the pattern of demand by the end of the decade. Certain goods, such as high-quality foodstuffs and more especially consumer durables, would increase at rates far above 4.9 per cent, while others - above all staple foodstuffs - would rise less rapidly (see table IV-2). Something similar would happen in the other sectors of aggregate demand - public expenditure, investment and external demand.

Given the structure of aggregate demand estimated for 1966 and the possibilities of import substitution, an estimate may be made of the form in which the productive system would have to expand, by sectors of economic activity. The results of the sectoral projection indicate that if the trend observed during the period 1945-56 is continued and intensified,

productive activity will be directed towards the internal market and the production of goods. The agricultural sector would expand by almost 74 per cent, the greatest gains being registered in certain export items and in products designed for imports substitution (see table IV-13). Industrial output would more than double, and would thus increase its share of the country's productive activity. The manufacturing sector to expand most intensively would be construction materials, since one of the fundamental prerequisites of the development process is a marked increase in basic social capital. Another sector which would expand quite rapidly, stimulated mainly by the substitution of imported processed foods would be foodstuffs (see table IV-14).

But farm and industrial output could not be developed on the scale indicated unless the sectors providing basic services were expanded with sufficient speed. Consequently, the gross product of the transport sector would rise by 75.2 per cent; but as there would be a substitution process in favour of road transport the latter would grow 2.3 times (see table IV-19). A similar process would occur in the energy sector, which in the aggregate would expand by 132 per cent. Electric power would increase by more than two and a half times, while installed generating capacity would have to climb from some 39,000 kW in 1956 to almost 100,000 kW in 1966. The share of hydroelectric plants in installed capacity now negligible, would increase to almost a half by the end of the period (see tables IV-16 and IV-17).

Most of the services sectors would develop relatively slowly, and would continue to lose ground in the national economy. It is worth repeating that the most obvious example is the Canal Zone. Unlike all the other sectors of the gross product, this would not only decline in relative importance but would even suffer a contraction in absolute terms.

On the other hand, public administration would more than double, because of the decisive role the Government would have to play in the economic development process embodied in this projection (see table IV-23). This fact should be particularly stressed. The improvement of Panama's economic infrastructure would involve a marked increase in Government expenditure - from 13 million to 55 million balboas. Most of this increase

/would be

would be spent on basic public works, so that - among other results - there would be an appreciable expansion in the construction sector (see table IV-12). The Government share in gross investment would go up from 24 per cent in 1956 to 44 per cent in 1966, and State activity itself would have to undergo a radical change. Instead of allocating barely a quarter of its expenditure to capital formation, as in 1956, the State would have to earmark 46 per cent for this purpose in 1966 (see table II-9).

The expansion of domestic production, the rise in construction in general and public works in particular, and the increase in gross investment should also help to solve the problem of unemployment and under-employment. The active population will probably grow during the next ten years at a rate of about 3 per cent annually. The total gross product would more than double this rate of growth, so that the natural increase in the active population would probably be absorbed with ease. It is possible too that unemployment would be eliminated and under-employment considerably reduced. As the total gross product would expand at an annual rate of 6.4 per cent and as productivity per employed person would perhaps rise by 2 per cent annually, employment might increase by more than 4 per cent a year. Given the rate of natural increase of the active population, there would remain a margin of more than 1 per cent per year available for absorbing accumulated disemployment. Consequently, some 4,000 additional job opportunities might be created each year after the absorption of the natural increase in the active population.

It should be remembered, however, that services, which offer the highest employment per unit of product, would grow more slowly than the average rate for the economy, and that the Canal Zone, which employed about 13,000 Panama residents in 1956, would employ only some 9,000 such residents in 1966.

Construction activity, on the other hand, would increase more than two and a half times, and the expansion of the basic social capital would provide many additional employment opportunities. However, if methods of construction and production in general are over-capitalized and employ a highly labour-saving technology, the solution of the problem of unemployment and under-employment might thereby be postponed.

/Table II-9

Table II-9

PANAMA: SOME CHARACTERISTICS OF THE ECONOMIC DEVELOPMENT PROJECTION

| | Unit | 1956 | 1966 | 1966 (index 1956=100) |
|---|---|---|---|---|
| Per capita gross product | balboas | 346 | 485 | 140.2 |
| Per capita private consumption | balboas | 281 | 342 | 121.7 |
| Per capita gross investment | balboas | 52 | 100 | 192.3 |
| Public investment in relation to gross investment | percentage | 26.4 | 44.1 | - |
| Share of public expenditure used for investment | percentage | 23.9 | 45.9 | - |
| Share of gross product in aggregate supply | percentage | 75.8 | 81.9 | - |

Source: Table II-8. The population projected is given in table II-5.

The development and expansion of agriculture, finally would be accompanied by a marked increase in productivity, which would bring about an improvement in the incomes and living conditions of the rural population. To the extent that this took place, the farm sector would retain a larger proportion of the rural population - which would help to correct one of the principal causes of the accumulation of surplus population in the towns.

This review brings into relief the vital role attributed, in the development process described, to the expansion of investment. The enlargement of the basic social capital is an essential condition for the integration of the national economy, the improvement of the mobility and utilization of productive resources, the broadening of the market, and, as a collorary of the above, the achievement of a decisive increase in real productivity. In this respect, the agricultural sector would be given priority, since it is in fact the main determinant of the level of

costs (both real and monetary) within the Panamanian economy.

The increase in expenditure on roads, harbours, transport equipment, electric power plants etc. would have to come mainly from the public sector. Hence, the Government would have to augment its income, in particular by increasing current revenue, but also by ensuring the maximum utilization of the country's saving capacity. In improving and amplifying the tax system, it would do well not to lose sight of the effects on income distribution, for measures designed to reduce inequalities in income distribution, it will be remembered, create stimuli to production by helping to expand the market.

The Government would also have to play an important part in ensuring that in the intensive process of development to be carried out no risk was run of productive resources being inadequately used. The attainment of the rate of growth proposed depends to a large extent on the best possible co-ordination and maximum possible utilization of the factors of production. In this respect, the guiding role of the State is of vital importance. Its main instruments would have to be direct and indirect incentives, together with tariff, taxation and monetary policy.

As has been pointed out, the process of agricultural and industrial expansion would have to be financed to a considerable extent by the domestic credit system. A suitable credit policy would also reinforce the incentives provided by fiscal policy with a view to directing the investment resources of private firms into the right channels.

These comments merely suggest some of the changes which would have to take place in certain features of Panama's structural and institutional framework and economic policy to make economic development possible. In a brief review such as this there can be no possibility of examining these matters in all the necessary detail, or of defining in exact terms the magnitude of the policy changes involved. It is hoped, however, that something will have been achieved to indicate the importance of the changes in question and the lines along which they will have to develop.

# Chapter III

# PROJECTIONS OF CAPACITY TO IMPORT

## I. INTRODUCTION

### 1. Preliminary considerations

In chapter I of this study a detailed analysis was made of the development of Panama's capacity to import during the period 1945-56, and the very complex and unusual nature of the country's external sector was stressed.[1/] In order to give logical order to the examination of Panama's external demand, a distinction was made between the three main components of its capacity to import: registered exports of goods, transactions connected with international traffic and tourism, and relations with the Canal Zone. The same classification can conveniently be used in the study of the possible future growth of Panama's capacity to import, for each of the categories mentioned in fact constitutes a separate element within the country's external demand.

In the two preceding chapters an analysis was made of the operation of Panama's economic system, and it was shown - so far as is possible - that the capacity to import is the main dynamic factor - the prime motive force - in Panama's economic development. It is clear, then, that in order to judge the prospects for the country's future economic development we must obtain as accurate an idea as possible of the stimuli to growth which may derive from the sector of external demand. If this sector showed prospects of contraction similar to those which any observer would have predicted at the end of the Second World War, the task would be not so much to examine the possibilities for economic development as to consider ways of mitigating the negative effects of a sharp fall in external demand. By contrast, an observer judging the situation at the beginning of the Second World War would have tried to develop a programme designed to take maximum advantage of the additional resources which the economic boom was to bring to Panama. The observer proceeding on the

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1/ See chapter I, section II.3.

basis of the year 1956 (from the point of view of the statistical series) will have to ask himself what opportunities of development are likely to be presented by external demand during the coming decade, and starting from that point, to make some observations on what the objective of promoting the country's economic development means in terms of realities.

This is the intention of this chapter, the final results of which have already been used in chapter II in order to form a reasonable view of the prospects of future growth, and will be used in chapter IV in order to determine what is meant in specific and concrete terms by a given rate of growth.

There is no question, of course, of forecasting item by item the volume of external demand in 1966. In the first place, what is of interest is not the exact figure for that year but the long-term trend which will be broadly felt in the next decade. This means, in effect, finding the underlying causes of the trend - not necessarily of the short-term fluctuations - in the components of external demand. In other words, the object is to attempt to identify the factors giving continuity and permanence to exports of goods and services. Thus, so far as concerns banana exports there will no doubt be marked short-term fluctuations due, for example, to weather conditions. It is equally certain, however, that the level and general trend of exports will depend on the evolution of the United States market, on the exports of other producing countries and, finally, on the fact that from the standpoint of institutional organization the market is determined by one large company. The same applies to demand originating in the Canal Zone, for, regardless of accidental peaks resulting from military conflicts or exceptional periods of construction, this demand will depend over the long term on the population resident in the Zone and on technological innovations making it possible to replace or improve the efficiency of human labour through the use of machinery or automatic devices.

In a country with an external sector composed of such heterogeneous elements as exports of bananas and shrimps, the provision of Panamanian labour in the Canal Zone and the supply of passing ships, aircraft and persons, the future prospects of each of these elements cannot possibly

be assessed until the main factors influencing each of them have been identified. For this purpose, there follows an analysis of all the important components of Panama's capacity to import, both past and future; and on the basis of the information thus obtained hypotheses will be formulated concerning their probable development in the coming decade.

The projections must be considered simply as a first attempt to reach a general assessment of Panama's future capacity to import. In some cases the essential factors determining external demand have been given very careful study. Panama exports are an obvious case in point; but it should of course be pointed out that the detailed analysis here offered of the probable future development of the banana market is the first real attempt in this direction. Consequently, since it could not be based on experience such as is available for the studies now in progress on cotton, cacao and copper etc., and since statistical information of comparable quality is similarly unavailable, this study should be considered more or less as a first approximation.

Another sector of external demand the future of which appears to have been studied with particular care is the Panama Canal traffic and the activities to which it gives rise in the Zone. Unfortunately, it has been possible to obtain for use only some general results published by the Panama Canal Company from a study it commissioned. It is on this information that the projection given below are based.[2/]

The bases for the projection of export prospects for less important items and the data for assessing the export potentialities of new products are even less adequate than those just referred to. For instance, much more knowledge is needed about the life history of the shrimp - the export item next in importance to bananas - before a basis will exist for determining its export prospects. Only through continuous scientific research can such information as the size of the present shrimp population, its habits, its distribution and the various natural factors determining

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2/ Panama Canal Company, Annual Report of Board of Directors to Stockholder, 1957 and 1958.

the size of the catch be obtained. As such research has only recently been begun in Panama, the projection is in fact based on preliminary observations only.

The most venturesome projections, of course, are those connected with the expectations for new exports. In this case, the views expressed are based almost entirely on the fact that Panama offers certain export possibilities which might be developed. This applies very obviously to meat, for instance, and certain other products. But any real export prospects will depend not only on the basic possibility of production itself but on the existence of a market, on transport possibilities and conditions, on the capacity to maintain a given quantity and quality of supply, and on various other factors. Since it has not been possible in this study to go into every one of the export possibilities in question - for lack of the necessary time, since their examination would in many instances require lengthy scientific experimentation and technical investigation - this chapter does no more than present, in summary and logical form, a survey of the possibilities for new sources of external earnings. To this end, certain very preliminary hypotheses have been employed, with the sole object of gauging the order of magnitude of the possibilities and the effect they might have on Panama's economic development.

So far as has been possible, two alternative projections have been made for each item of import capacity. One, hypothesis "A", corresponds to the approximate course of future development of the item in question if the factors which currently determine Panama's exports of goods and services undergo no radical change. It starts, that is, from the assumption that the normal and spontaneous conditions of the international market which have operated in the past will continue to determine Panama's exports in the coming decade. Hypothesis "B", on the other hand, assumes a determined attitude and an effective policy for the development of exports of goods and services. It is based on the premise that the expansion of exports to the maximum is essential for the attainment of a definite rate of growth in Panama's standard of living. Only on the basis of the exports projection used for hypothesis "B", in fact, can there be any possibility of attaining the rate of economic development used in

the sectoral projection in chapter IV. Thus, whenever hypothesis "B" is given in the projection for a specific item, it is because it is assumed that a determined effort on Panama's part to promote its future development will have positive results.

As in the analysis of the capacity to import made in chapter I, so in the projection, the three component elements will be dealt with individually. For each important item in the external sector, therefore, separate projections will be given for the quantum and the terms of trade, and from these the projection of the capacity to import will in each case be calculated.

2. General results of the projection of external demand in 1966

It will be recalled from the analysis made in chapter I that in 1945 Panama's total capacity to import reached 131.7 million balboas, and that subsequently, in 1951, it suffered a spectacular fall, to a minimum of 70.0 million balboas. Between that date and the end of the period under review it made a partial recovery, reaching 92.4 million balboas in 1956. The increase in the last five years amounted to 32 per cent, the annual rate being 5.7 per cent.

The projections of external demand in 1966 indicate a general continuance of the recent recovery in the capacity to import, but at a substantially lower rate, even in the case of the more optimistic hypothesis (see figure III-1). Even hypothesis "B", although it presupposes an intensive effort to increase exports, would bring the capacity to import in 1966 up to 133.6 million balboas only - barely more than the level registered in 1945. In relation to 1956, however, this projection implies an increase of 44.6 per cent, i.e. an annual rate of 3.8 per cent. In sum, then, although projection "B" of the capacity to import would permit the recovery of the 1945 maximum, it would not mean the maintenance of the last five years' rate of increase (see table III-I).

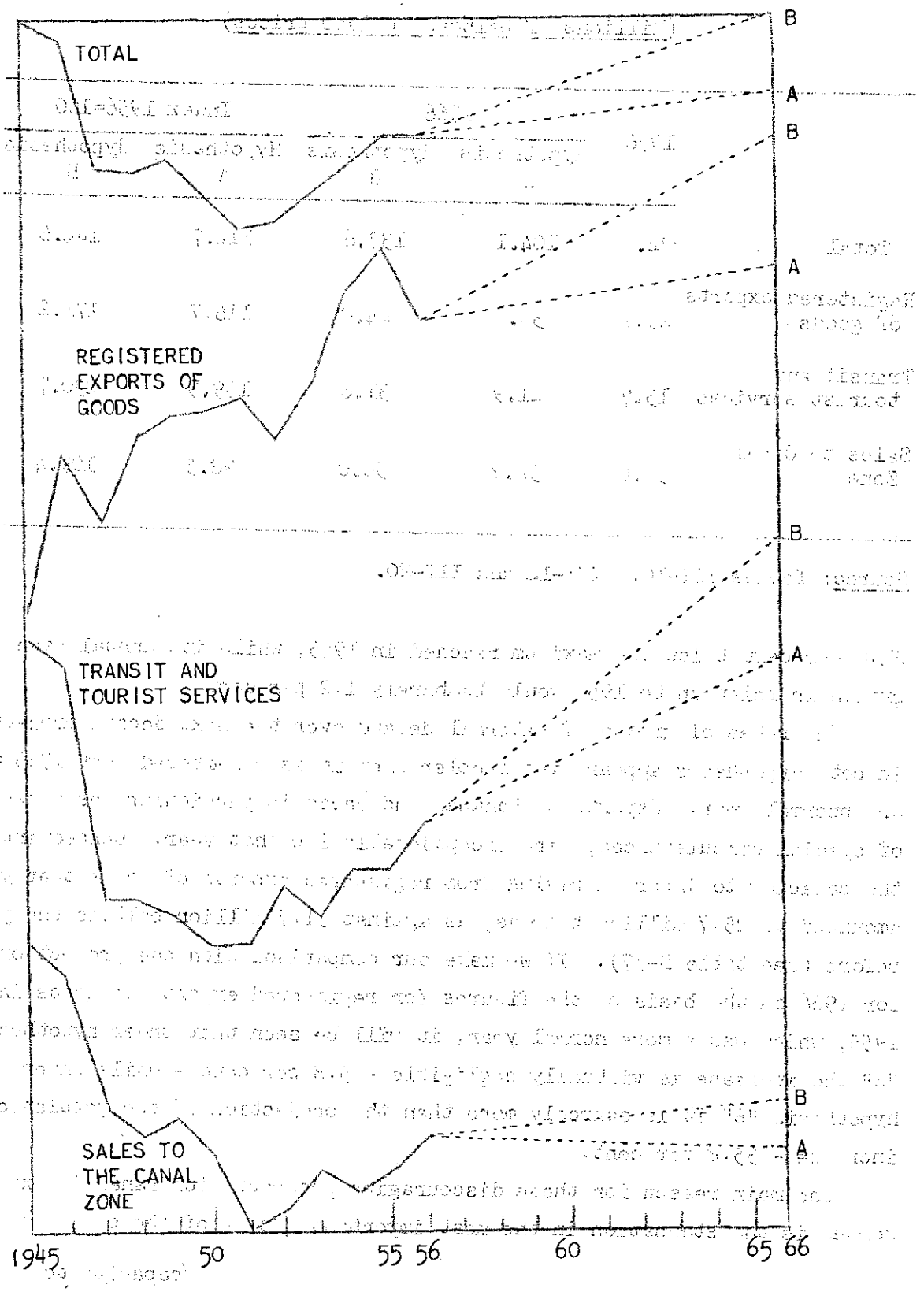
Under hypothesis "A" too, the next decade will witness a continuance of the tendency towards a recovery of the capacity to import, but in this case at an extremely modest rate. According to this hypothesis the capacity to import would rise to 104.1 million balboas by 1966 (an increase of 12.7 per cent). Thus, during the decade external demand would remain

/Figure III-1

Figure III-1

PANAMA : PROJECTIONS OF THE CAPACITY TO IMPORT, TOTAL AND BY PRINCIPAL CATEGORIES

SEMI-LOGARITHMIC SCALE




/Table III-1

Table III-1

PANAMA: AGGREGATE PROJECTION OF CAPACITY TO IMPORT

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | | Index 1956=100 | |
|---|---|---|---|---|---|
| | | Hypothesis A | Hypothesis B | Hypothesis A | Hypothesis B |
| Total | 92.4 | 104.1 | 133.6 | 112.7 | 144.6 |
| Registered exports of goods | 25.7 | 30.0 | 44.0 | 116.7 | 171.2 |
| Transit and tourist services | 13.7 | 21.9 | 31.6 | 159.9 | 230.7 |
| Sales to Canal Zone | 53.0 | 52.2 | 58.0 | 98.5 | 109.4 |

Source: Tables III-10, III-14 and III-20.

21.0 per cent below the maximum reached in 1945, while its annual rate of growth in relation to 1956 would be barely 1.2 per cent.

The rates of growth of external demand over the next decate projected in both hypotheses appear even feebler when it is remembered that 1956 was an abnormal year. Exports of bananas and cacao in particular, as a result of special circumstances, were exceptionally low that year. Consequently, the capacity to import deriving from registered exports of goods that year amounted to 25.7 million balboas, as against 31.7 million balboas the year before (see table B-37). If we make our comparison with the projections for 1966 on the basis of the figures for registered exports of goods in 1955, which was a more normal year, it will be seen that under hypothesis "A" the increase is virtually negligible - 5.8 per cent - while under hypothesis "B" it is scarcely more than the projection of the population increase - 35.8 per cent.

The main reason for these discouraging prospects for Panama's external demand is the stagnation in the most important sector of the country's

/capacity to

capacity to import: the Canal Zone. Indeed, under hypothesis "A" the projection of exports of goods and services to the Zone (based on projections and programmes outlined by the Canal Zone authorities themselves) shows a very slight contraction, and under the more optimistic conditions of hypothesis "B" it shows an increase of barely 9.4 per cent in the decade 1956-66.

This stationary trend in Panama's external demand is offset by the dynamism of the capacity to import generated by exports of goods and by traffic and tourism - especially the latter. The external demand created by transactions connected with traffic and tourist activities should grow very rapidly. Under hypothesis "A", the increase will be practically 60.0 per cent, while under hypothesis "B" external demand from this source thanks mainly to efforts to increase the numbers and the expenditure of foreign visitors, will more than double.

Registered exports of goods would not increase to any great extent under hypothesis "A", which is based on the continuance of traditional and established exports. In this case the increase would be from 25.7 million balboas to 30.0 million balboas, a rise of 16.7 per cent. Under hypothesis "B", on the other hand, which presupposes a considerable development and intensification of new export activities, and the maximum use of traditional exports, the projected increase will be 71.2 per cent.

According to the foregoing projections the structure of Panama's external demand will continue in the next decade to shift in the same direction in which it has been moving in the twelve post-war years. The share of the most important sector of external demand - the Canal Zone - will continue to decline. In 1945, as indicated in chapter I, this sector accounted for no less than three-quarters of the capacity to import. The proportion fell to about 60.0 per cent between 1950 and 1953, and to below that level in subsequent years. In 1956 it was 57.4 per cent, and according to hypothesis "A" it will have fallen to 50.1 per cent in 1966. According to hypothesis "B", which assumes a marked increase in other exports, the proportion will fall in that year to 43.4 per cent (see table III-2).

/Table III-2

Table III-2

PANAMA: COMPOSITION OF CAPACITY TO IMPORT

(Percentages)

| | 1956 | 1966 | |
|---|---|---|---|
| | | Hypothesis A | Hypothesis B |
| Total | 100.0 | 100.0 | 100.0 |
| Registered exports of goods | 27.8 | 28.8 | 32.9 |
| Transit and tourist services | 14.8 | 21.0 | 23.7 |
| Sales to Canal Zone | 57.4 | 50.1 | 43.4 |

Source: See table III-1.

The capacity to import deriving from exports of goods had in the last years of the period analysed reached a level of between 25 and 30 per cent of the total, after a continuous increase in relative importance. Under hypothesis "B", which, as has been said, assumes a sharp increase in registered exports of goods, it will reach practically a third of the total capacity to import in 1966, while under hypothesis "A" it will remain at the level of recent years.

External demand originating in activities connected with traffic and tourism will recover and easily exceed its relative share in the immediate post-war years. In these latter years it represented 18 per cent of the total; but owing to the decline in the numbers of military and other visitors connected in various ways with the war the proportion later fell to 12 per cent. Thanks to the recent increases in tourism and air transport, this sector of external demand rose to about 14 per cent in the last years of the period. Assuming an intensification of these activities in the future, its share will by 1966 be 21.0 per cent under hypothesis "A" and 23.7 per cent under hypothesis "B".

As in the past, the decisive factor in Panama's capacity to import

/during the

during the next decade will be the quantum or volume of exports of goods and services (see table III-3). The Panamanian economy will continue, for institutional reasons, to be a very open one, and its general price-level will therefore not vary very much from that of the United States, with whose economy Panama is very closely linked. The terms of trade will consequently remain practically stationary, with a slight downward trend. This is due primarily to the fact that the poor prospects for the prices of certain export products such as cacao, coffee and sugar in the world market will in large part be offset by the marked increase in the wage-rates of Canal Zone employees (see table III-4).

Despite the effects which the changes in export prices just referred to may have on certain individual items of the capacity to import and on the quantum, the latter will in general continue in the coming decade - as a result of the virtually stationary projection of the terms of trade index - to follow much the same course as that just outlined in the case of the projection of the capacity to import (see table III-5 and figure III-2).

/Table III-3

Table III-3

PANAMA: AGGREGATE PROJECTIONS OF CAPACITY TO IMPORT, QUANTUM, AND TERMS OF TRADE

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | |
|---|---|---|---|
| | | Hypothesis A | Hypothesis B |
| Capacity to import | 92.4 | 104.1 | 133.6 |
| Quantum | 86.0 | 96.2 | 125.6 |
| Index of terms of trade (1950 = 100) | 107.4 | 108.2 | 106.4 |

Source: See tables III-1, III-4 and III-5.

/Table III-4

Table III-4

PANAMA: AGGREGATE PROJECTION OF TERMS OF TRADE INDEX

(1950 = 100)

| | 1956 | 1966 | |
|---|---|---|---|
| | | Hypothesis A | Hypothesis B |
| Total | 107.4 | 108.2 | 106.4 |
| Registered exports of goods | 108.7 | 106.6 | 107.9 |
| Transit and tourist services | 94.4 | 98.2 | 96.3 |
| Sales to Canal Zone | 110.2 | 114.0 | 111.5 |

Source: See table III-10 and sections III.5 and IV.7 of this chapter.

/Table III-5

Table III-5

PANAMA: PROJECTION OF AGGREGATE QUANTUM OF EXPORTS OF GOODS AND SERVICES

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | | Index 1956=100 | |
|---|---|---|---|---|---|
| | | Hypothesis A | Hypothesis B | Hypothesis A | Hypothesis B |
| Total | 86.0 | 96.2 | 125.6 | 111.9 | 146.0 |
| Registered exports of goods | 23.7 | 28.1 | 40.8 | 118.6 | 172.2 |
| Transit and tourist services | 14.3 | 22.3 | 32.8 | 155.9 | 229.4 |
| Sales to Canal Zone | 48.0 | 45.8 | 52.0 | 95.4 | 108.3 |

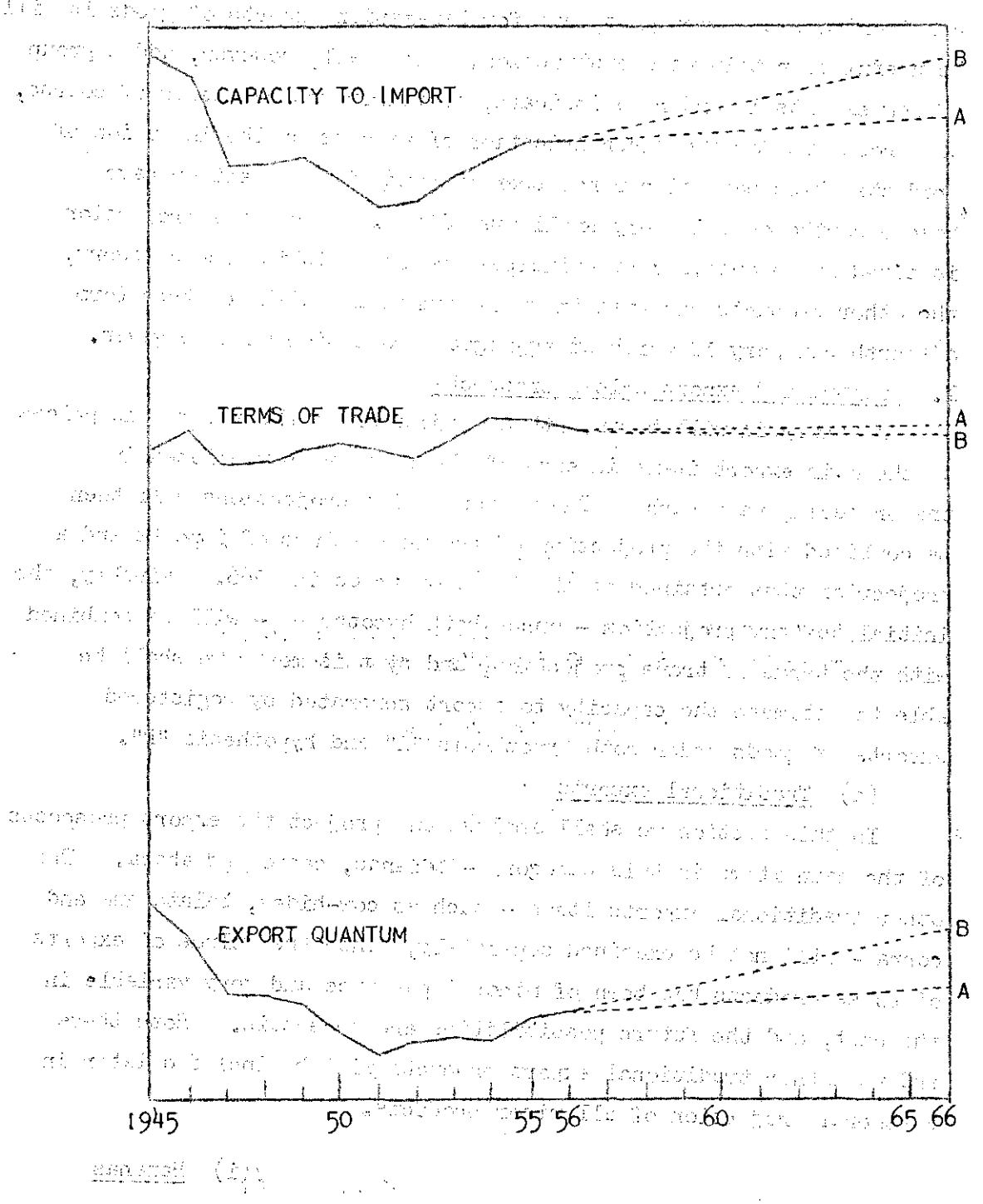
Source: See tables III-10, III-13 and III-18.

/Figure III-2

FIGURE III - 2

PANAMA : PROJECTIONS OF THE CAPACITY TO IMPORT, OF THE TERMS OF TRADE AND OF THE EXPORT QUANTUM

SEMI-LOGARITHMIC SCALE



## II. REGISTERED EXPORTS OF GOODS

In chapter I it was shown that registered exports of goods can be classified - according to their history during the post-war period covered by the series - as "traditional" and "recent" exports. In considering the future prospects for Panamanian exports of goods it will be useful to retain this distinction. We shall, however, add a group of new exports in order to indicate, in fairly general terms of course, the prospects for the diversification of exports by the inclusion of products which have either not been exported in the past or have been exported only in very small quantities. Since the projection is based on an analysis by principal products within each category, the other products exported in small quantities will together form a fourth category of which an aggregate projection will be given.

### 1. Quantum and export prices prospects

The analysis will begin with a projection of the volume and prices of the main export items in each of the categories mentioned in the preceding paragraph. The various price projections will then be combined with the projection of the unit values of imports and a projection thus obtained of the terms of trade in 1966. Finally, the initial quantum projection - under both hypotheses - will be combined with the terms of trade projection, and by this means we shall be able to estimate the capacity to import generated by registered exports of goods under both hypothesis "A" and hypothesis "B".

#### (a) Traditional exports

In this section we shall analyse and project the export prospects of the main items in this category - bananas, cacao and abaca. The other traditional exports items - such as cow-hides, balata gum and copra - will not be examined separately, since the volume of exports of these products has been of minor importance and very variable in the past, and the future possibilities are uncertain. Both these and the other traditional export products will be included later in a general projection of all minor products.

/(i) Bananas

(i) Bananas. The analysis and projection of Panama's banana exports given here will be based on a special study carried out by the secretariat.3/ Following the initiation of a number of economic development studies and projections relating to certain Central American countries and Panama, it was felt desirable - since some of these countries share the characteristic of being large exporters of bananas, - to undertake an investigation of the prospects of the international market for this product. The study made examines, firstly, the evolution of the world demand for bananas (particularly the United States market), and secondly, the structure of world supply and the share in it of Panama and the Central American banana exporting countries, - stressing the fundamental importance for these countries of the institutional organization of the market. Lastly, on the basis of all the above, a projection is made of world and United States demand, attention being given to the share in each of aggregate Central American exports and of Panamanian exports. This is the projection used in this study as the basis for assessing the future prospects of Panama's banana exports.

Quantum prospects and projection. In chapter I, section II.A.3 a detailed description is given of the historical evolution of the country's most important and traditional export, bananas. In considering the prospects for the future development of banana exports, it has to be remembered that these exports originate almost in their entirety in the plantations of the great banana company which dominates the United States market and controls the bulk of Latin American production. This is of vital importance, since it means that the production and export of bananas in Panama are largely determined by this company. In the first place, as will be seen later, the very fact of its presence in Panama means that the market for Panama's bananas is the United States. Secondly, as the same company controls the major share of production in several other Latin American countries, its production policy in these countries and in Panama determines the

3/ ECLA, Economic Bulletin for Latin America, The international banana market, its evolution and prospects, Vol. III, N° 2.

absolute volume of exports of each of them.

Another factor which exercises a decisive influence on the level of banana production in Panama is of the serious effect of pests and diseases. It is particularly important to remember that what is commonly known as "Panama disease" has kept out of production large areas peculiarly suited for this purpose, notably the Almirante region in the province of Bocas del Toro. These areas have been used temporarily for the cultivation of other crops, especially cacao and abaca. In recent years an attempt has been made, by flooding the infested land and planting varieties resistant to the disease, to resume banana-growing in the areas concerned. But this technique does not appear to have been entirely successful in controlling Panama disease, for the flooding of the land has in many instances has to be repeated within two years.4/

No analysis of banana export prospects can be made without taking into consideration a structural factor of decisive importance - the availability of new land suitable for banana-growing. The existing information on this aspect of the banana industry is rather discouraging, for the greater part of the land available is either already under cultivation or infested with Panama disease. The oldest and most important banana area in the country, on the Caribbean coast near the port of Almirante, could not be used for banana-growing throughout the period 1936-53. Some 3,000 to 4,000 hectares were replanted in the last years of the period, and there are still considerable areas of available land. In assessing its potential value, however, it should be borne in mind that this is precisely the area where Panama disease persists and where the measures taken to eradicate it have had least success.

The area next in importance from the point of view of natural resources is on the Pacific coast in the province of Chiriquí, near the frontier with Costa Rica. This is at present the main producing region, plantations covering between 8,000 and 9,000 hectares; there are no

4/ Stacy May and Galo Plaza, The United Fruit Company in Latin America. National Planning Association, 1958, p.160 and Pan American Union, Inter-American Economic and Social Council, Special Committee on Bananas, Report of Banana Mission (Washington, 1957) pp. 54-57.

/sizeable areas

sizeable areas of good quality land available in the region for any extension of plantations.

Panama has produced bananas in fairly large quantities in other parts of the country: around Colón, on the San Blas coast, in the province of Darien on the Pacific coast, along the Panama Canal and near Gatún. But this production has practically disappeared in recent years owing to the ravages of Panama disease and other diseases. In any case, the land used in these areas is mostly of poor quality. The only part of the country which still has good quality land available is in the province of Azuero: near Tonosi there are some 1,200 hectares of land suitable for banana-growing.5/

Additional obstacles to any considerable expansion of production result from the organization of the international banana market and the characteristics of the exportable fruit itself. As is well known, the banana is a highly perishable fruit extremely vulnerable to pests and diseases and subject to rapid deterioration in appearance. This last point is of particular importance as regards the North American market, which absorbs more than half the world's banana imports. The main importing company in the United States and Canada - which is also the main exporting company in Costa Rica, Guatemala, Honduras, Panama and other Latin American countries - has imposed on the North American market strict standards of quality and appearance which markedly differentiate its products from those supplied by other importers. In order to maintain these standards, the dominant banana company has organized exports on the basis of a system of large plantations in many countries in the tropical region, together making up a single huge horizontal and vertical economic complex. The need to differentiate the fruit and to maintain high standards of quality and appearance has resulted in an organization in which the preparation of the plantations, their

5/ Pan American Union, op. cit., pp. 120 and 124-125; International Bank for Reconstruction and Development, Agricultural Development of Panama, (P.A. Reid), Washington, D.C., 1957, p. 26.

/upkeep, irrigation

upkeep, irrigation and protection against pests and diseases, the transport of the bananas by land and sea between and within the producing and importing countries and their ripening and distribution take place in accordance with a predetermined sequence.

From Panama's point of view these characteristics of the international banana market have three very important consequences. First, it is clear that it would be virtually hopeless to look to the independent producers for any appreciable increase in Panama's exports to the United States, since this would call for compliance with standards poles apart from those at present prevailing among such producers, and disproportionately large investment. Nor is there any likelihood of these independent producers capturing the European market, since - apart from the problems of transport and distribution which would arise - they would have to compete with African and Canary Island producers who enjoy cost advantages and commercial protection in this market. Secondly, given the scale on which the company operates, it is unlikely that it would be interested in developing the land available in the Azuero peninsula, which amounts to an area of barely 1,200 hectares. In the third place the natural consequence of the vast size of the dominant company's investiments in various tropical countries is that production in these countries is directly linked with the development of the United States market, and that the countries concerned are fairly well protected against alternative sources of supply. The most convincing proof of this can be found in the effect on the international banana market of the recent appearance of a new exporter, Ecuador, whose exports rose 20 per cent of the world total in the last years studied as againt 4 per cent in 1945-49. More dramatic still was Ecuador's irrumption on the United States market. In the first five years after the war, imports from Ecuador were barely 3.3 per cent of total United States imports, whereas in the last years of the period they amounted to more than a third of the total. This, however, although exceptional on the international United States markets,

/did not

did not affect the share of the Central American producing countries and Panama in United States imports. And it is the concentration of the big banana company's interests in these countries which abundantly explains why Ecuador displaced, not Costa Rica, Guatemala, Honduras and Panama, but Cuba, Haiti, Mexico and other small producers.

The foregoing has made it clear that the great banana company can affect the level of Panama's exports to the extent to which it decides to expand or reduce production in its plantations in other countries; however, its policy in this respect is not arbitrary, of course, but cant be rationally predicted. If, for instance, there is constant pressure of demand in the banana market controlled by the company, the latter will naturally increase production so far as its plantations and resources permit, regardless of the country in which they happen to be. If, on the other hand, production capacity exceeds the market's capacity to absorb, the company will adopt a policy of selective production in which the relative costs of production in the various countries will be the decisive factor. Given the fact that the company's production policy is based on this rationale, the great increase in Panama's exports in the last years of the period is very significant. From a figure of not more than 6 million stems for the post-war period as a whole, these exports rose to over 7 million stems in 1955-57. The reason for this must clearly be either that the pressure of demand was so great that the banana company felt obliged to increase its production to the maximum, or that Panama is favoured from the point of view of relative costs, or again - and this is the most likely explanation - that both these factors operated. As to the question of market balance, although it is true that demand is not growing very rapidly in the United States, it is equally true that the spectacular expansion of Ecuador's exports appears to have reached its limit and that these exports will probably decline in the next few years. 6/ Other producing countries, especially Honduras,

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6/ Pan American Union, op. cit., pp. 141 and 214; May and Plaza, op. cit., pp. 171-174.

/have also

have also had to limit their production. At the same time, Panama's bananas - especially those grown in the Chiriquí area - are considered to be outstanding quality, and the productivity of the Panamanian plantations is very high. 7/

Consequently, the production policy pursued in the countries in which exports are controlled by the banana company will tend to be favourable to Panama, in the sense that the latter will go on producing to the maximum of its capacity so long as the market permits.

As has been seen throughout the foregoing analysis, the prospects for Panama's banana exports depend primarily on circumstances connected with production possibilities in Panama itself and other competing countries. It has also been seen that Panama appears, judging from recent developments, to be in a relatively advantageous position with regard to such competition. It remains only to determine what will be the future trend of the demand for bananas in the United States market, which is supplied largely from fruit produced in Panama and other Latin American countries by the big banana company which dominates the market referred to.

In the study of world for bananas already mentioned 8/ a sharp distinction was drawn between two categories of banana-importing countries. One group, including, inter alia, the United States, Canada, Argentina and New Zealand, has reached saturation point as regards the per capita consumption of bananas, so that the possibilities of future expansion they offer are limited to the rate of population growth. The other group of countries, consisting in the main of the European countries, have not reached this point and their demand therefore grows not only with their population growth but also with the rise in per capita income levels. The income-elasticity of demand for bananas in this group is estimated to be 1.17. On the basis of certain assumptions regarding the future rate of population growth and of per capita income, it is calculated that the demand for bananas in these countries is likely to rise at an annual rate of 4.6 per cent - an exceptionally dynamic trend. If banana production in Panama was not subject to such severe limitations and if exports were not, for the institutional reasons indicated above, tied to the United States market, the country would undoubtedly be able to benefit greatly by directing its exports towards the European market. But such a prospect is very unlikely, as is clear from the fact that after the substantial increase in Panama's exports in recent years the entire volume still went to the

7/ Pan-American Union, op.cit page 214.
8/ ECLA, Economic Bulletin for Latin America, op. cit.

/North American

North American market.

The North American market, comprising the United States and Canada, will probably expand in the coming decade by barely 2.0 per cent per annum, a rate equal to that of the combined growth of their two populations. This is less than half the rate of the increase in demand expected in the countries where consumption has not yet reached saturation point, and gives a total increase of only 21.9 per cent for the whole of the coming decade. It is due entirely to population growth, as has already been said, for a stationary rate of per capita consumption is anticipated. The secretariat's study of the banana, to which many references have already been made, gives a detailed analysis of the factors determining this stability. The negligible income-elasticity of the demand for bananas in the United States (the result of the high level of consumption in the various income-groups of the population, both rural and urban), the impact on the consumption of fresh fruit of technical improvements resulting in the replacement of such fruit by processed fruits and juices, and the probable future trends in these and other elements determining banana consumption combine to make it likely that per capita consumption will remain constant at the levels reached in recent years.

Having identified the main factors affecting Panama's banana exports, from the standpoint of both supply and demand, we may now attempt to project the volume of Panama's exports in the coming decade. Even though, here as with all the projections, it is difficult to arrive at a specific figure for 1966, the information available permits a projection within a fairly narrow and entirely reasonable limit of possibilities. It has, in addition, been observed that Panama is near the upper limit of its production possibilities. It is unlikely, then, that the country will be able to increase its exports to any great extent unless something outstandingly important occurs such as the final eradication of Panama disease, in which case all the land in the Bocas del Toro region would become usable and production could substantially increase. Unfortunately, this is most unlikely to happen: it need only be recalled that the disease began to be a serious problem in 1915 and has since then caused the complete abandonment, for long periods, of such important areas as those of Almirante in Panama, Trujillo on the north coast of Honduras, Limón and

/Quepos on

Quepos on the Atlantic and Pacific coasts, respectively, of Costa Rica, and practically all the banana-growing areas on the northern coast of Guatemala and much of Surinam and British Honduras (Belize). At the same time, the banana companies have throughout the period, even though intermittently, been financing basic and applied research at various experimental stations in the tropics and at United States universities. Althoug one company has devised the flooding method and another is experimenting with varieties resistant to Panama disease, all efforts to eradicate the disease have met with relatively poor results.2/

However, even if Panama is not in a position to intensify its banana exports in any spectacular way, it is unlikely, either, that its volume of exports will fall below the present level. As has been seen, although United States demand is not growing very dynamically it does nevertheless offer a slightly expanding market. Moreover, there are reasons for believing that Panama offers the exporting company certain advantages in regard to the development of production by comparison with its plantations in other countries. Thus, everything appears to suggest that the present volume of exports - the annual average was nearly 7 million stems between 1955 and 1957 - will be maintained in the coming decade. This projection - which we are taking as the reasonable hypothesis - is the average of two very good years, 1955 and 1957, and the year between, which was affected by weather conditions. The 1966 projection thus represents a slight increase over 1956 - 7.0 million as against 6.2 million, a rise of 12.9 per cent.

As has been said, what really prevents an increase in exports is the fact that it has proved impossible to control Panama disease more effectively. It is reasonable to assume that the disease will not be permanently eradicated in the next few years, but it is also reasonable to anticipate some more effective control or the production of other varieties which are more resistant to the disease. This possibility, therefore must be taken into account in an optimistic projection; the latter cannot of course, be based on objective data since the nature of the decisive factor is practically unpredictable. Nevertheless, to get some idea of the possible size of such an optimistic hypothesis, it may be assumed that Panama will continue in the

2/ May and Plaza, op.cit., pp. 84-86, 153-158 and 246-247.

/future to

future to retain its share of the North American market. In the projection made of this market it was assumed that Canadian and United States imports would expand in the next decade at a rate of 2.0 per cent per year. This increase, which implies a rise of 21.9 per cent over the decade, will thus constitute the optimistic projection of Panama's banana exports (hypothesis "B"). Starting, again, with the average level of exports in 1955-57 - in order to allow for variable weather conditions - we obtain the figure of 8.5 million stems as the volume of exports in 1966 - i.e. an increase of 37.1 per cent over 1956.

Price prospects and projection. The banana-exporting countries - including Panama - register excessively low export values for their product. Consequently, their estimate balances of payments - calculated by the countries themselves or by the International Monetary Fund - include an adjustment usually based on wholesale banana prices in United States ports with a deduction for sea transport and insurance costs. 10/ This means, then, that the unit value of banana exports follows very closely the trend of whole sale banana prices in the United States.

In the study of the evolution of the international banana market made by the secretariat, 11/ it was observed that from 1948-49 onwards there was a remarkable stability in absolute prices on the United States market, both at the retail and at the wholesale or import level, and that trends in both these series were closely parallel. Such exceptional behaviour on the part of banana prices suggests that the market for this fruit is strictly controlled. Accordingly, banana price trends "actually reflect a price policy. This being the case, it may safely be asserted that banana prices on the United States market are likely to show great relative stability and a slight absolute increase". Consequently,

10/ Statistical and Census Department: Balanza de Pagos; años 1946-54; Informes especiales: Vol.3, N° 1, Panama, July 1956, p.30; and International Monetary Fund, International Financial Statistics, see sections on Costa Rica, Guatemala, Honduras, Panama and Ecuador.

11/ ECLA, Economic Bulletin for Latin America, op.cit.

the projection of demand for bananas given later (in the study in question) "is based on the assumption that relative prices for this fruit will remain virtually constant". 12/

According to this projection, banana prices on the United States market will follow the general price level. In a later section - in projecting the index of the unit value of imports 13/ - there will be found an analysis of the probable future behaviour of prices in the United States, and the conclusion is reached that the price level will rise in the coming decade at a rate of 1.5 per cent per year. In view of the fact that the trend of prices in Panama is similar to that in the United States we may assume at once that the index of the unit value of Panamanian imports will likewise increase at an annual rate of 1.5 per cent. On the basis of these assumptions the conclusion is reached that the future trend of banana prices will probably be similar to that of the index of Panama's import prices. Adopting this hypothesis in the present projection, we obtain an increase of 1.5 per cent per year in the absolute prices of bananas in the coming decade, and a constant level of relative prices or terms of trade for this export.

12/ Op.cit.

13/ See section II.2.b) of this chapter.

/(ii) Cacao

(ii) Cacao. Quantum prospects. Cacao is Panama's second most important agricultural export, although it follows a long way behind bananas. The main characteristic of cacao exports during the period under review was their exceptional variability: in 1945 barely 400 tons were exported, yet two years later the figure was over 2,000 tons. Subsequently, from 1949 onwards, exports fluctuated violently about an average of 1,200 tons, falling to less than 900 tons in 1951 and rising to more than 1,500 tons in 1949 and 1957. This extreme variability in the volume of exports of cacao appears to be closely associated with the notorious instability of cacao prices (see chapter I, section II.3.c).

Panama's cacao production goes almost entirely to exports. Only in the case of certain indigenous groups in the provinces of San Blas and Darién is the product consumed by the growers. The commercial production of cacao is concentrated almost entirely in the province of Bocas del Toro, the total area of cultivation being some 4,000 hectares. Of this total, some 1,200 hectares belong to the banana company which operates in this area, a little over 900 hectares belong to producers organized together in a co-operative and about 1,900 hectares belong to independent producers. Although it owns only one-third of the area, the banana company produces approximately one-half of Panama's output of cacao, whereas the 195 co-operative producers own 22.5 per cent of the area and produce about an equal percentage of the export total. The 423 independent producers, on the other hand, own about half the area and produce rather less than a third of the total output.[14/] Clearly, the banana company's plantations are by far the most productive; this is due to the fact that these plantations are relatively new and carefully protected against pests and diseases and that modern and efficient methods are always used. The other plantations are old, the methods used for their upkeep and protection against pests and diseases are usually inefficient, and the degree of care expended on them is usually in direct relation to the level of cacao

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14/ Interamerican Agricultural Cooperation Service in Panama and Division of Agriculture and Natural Resources - USOM/Panama: Agriculture in Panama. A review of conditions in Panamanian Agriculture with Tentative Recommendations for Improvement. Panama, July 1958.

prices. It should also be added that the beans have to be fermented and dried on the plantation, and this - except in the case of the banana company - is done by processes which give very irregular and usually inadequate results.

The best prospects for increased production in the future are to be found in the province referred to of Bocas del Toro. Very little cacao has been planted on the Pacific Coast in the past, and the land suitable for this purpose appears to be limited in extent. The long dry season and the irregular distribution of rainfall are key limiting factors, particularly in the Pacific area.[15/] To the limitations imposed by natural conditions must be added two other factors. The first is that the newest and most productive plantations - those belonging to the banana company - were established in order to make use of land which Panama disease had rendered useless for banana-growing. As has already been stated, it has been possible in recent years, thanks to certain techniques for the control of the disease, to replant large parts of these areas with bananas; and the only reason why this has not been done everywhere is, basically, the persistence of the disease. As Panama disease makes any projection of the use of the land infected by the fungus uncertain, it is difficult to estimate what areas of land may in the future become available for one or the other use. There are, however, certain data on which an estimate may be based. As was said earlier, the prospects of eradicating Panama disease must be considered rather remote, and projection "B" of banana exports was based on the assumption that the disease could at the best be controlled somewhat more effectively than at present. Secondly, the area at present planted with cacao is not large enough to be a limitation on the replanting of bananas, especially if the earlier hypothesis regarding the persistence of Panama disease is accepted. Consequently, although some reduction in the size of the banana company's cacao plantation is conceivable, there is little likelihood of their being expanded.

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15/ Ibid.

The other factor limiting the future prospects of an expansion in cacao production is the existence of the pests and diseases which attack the tree. Although until a few years ago Panama was considered very fortunate in this respect, there has recently appeared a disease known as "Monilia" which has destroyed the plantations in San Blas and Darién and near Colón, and for which there appears to be no known method of control. As a result of this new disease, other diseases and the degeneration of the varieties planted, productivity has fallen to a very low level, and this, combined with the extreme variability of prices, has made it difficult to establish new plantations and to give them adequate and regular care.16/

Finally, it should be borne in mind that a sizeable yield from new cacao trees is obtained only after some seven or eight years, so that any prospect of rapid change in prices - even if their level should be high - discourages smaller producers. In fact, it appears to have been the usual practice in a number of Central American countries including, of course, Panama, virtually to abandon plantations when international prices have not covered production costs and to put them into production again only when prices offered a sufficient stimulus - a form of production which is inefficient to a degree and which explains the variability in exports already referred to. In view of the instability of the international cacao market, it is obvious that Panama's production can not increase until the factors of instability affecting the small producer are eliminated and until the latter is encouraged to cultivate his plantations by modern methods. As regards stimuli, from the point of view of producers' incomes what is required is long-term loans and guaranteed prices, at least until an international agreement is reached for the stabilization of cacao prices. From the point of view of production techniques, it will be necessary to carry out an intensive campaign for the production and use of sound varieties and for education in better methods of selecting land, using fertilizers, fermenting and drying the cacao bean and controlling pests and diseases.

16/ Ibid.

Price prospects. Before summing up the foregoing observations in order to assess Panama's prospects for increasing its cacao exports, we must first consider the likely trend of the world cacao market and prices. There is no need to enter here into a detailed examination of the prospects of the world cacao market. Unlike its banana exports, Panama's exports of cacao form a relatively small proportion of its total exports and play a fairly negligible part in the world market for this product. Consequently, in view of the fact that possibilities for the expansion of its production are limited, it may be assumed that Panama will always be able to place its output on the foreign market provided that it offers a product of acceptable quality. Nevertheless, developments on the world market are important, since it is these which determine export prices.

In a recent FAO report on the future of the international cacao market, it was pointed out that studies on the long-term relationship between consumption, prices and income indicated that the demand for cacao will continue to increase with an expanding population and rising per capita incomes.[17] On the other hand, it would seem unlikely that there will be any great increase in production in the years to come. African producers are being affected by various factors limiting their production. The most important of these is the increasing proportion of old trees, the yields of which are gradually declining, and the failure to replace them by young trees. This situation, which is growing more serious every day may lead - unless new high-yield varieties are planted, in sufficient numbers - to a decline in African production, more particularly in the two main producing areas, the Gold Coast and Nigeria. In fact, the effects of this situation began to make themselves apparent in 1954. From that year African production has been contracting slightly in absolute terms, and its share in world production has fallen from about 70 per cent to 60 per cent.

17/ Food and Agriculture Organization of the United Nations: Cacao, A Review of Current Trends in production, prices and consumption; Commodity Series, Bulletin N° 27, Rome, 1956, p.67. The observations which follow are based on this document, in particular pp. 67-70.

In Latin America too, production, although it has risen recently as a result of a sharp increase in Brazil's output in 1954/55, is unlikely to go on expanding to any great extent in the years to come, for the instability of prices and the traditional risks of cacao-growing have militated against any substantial extension of plantations in the immediate past. Accordingly, FAO considers that Latin American production may at the most increase by 10 to 15 per cent over the five years 1955-60. The sharp fall in prices in 1956 has undoubtedly tended to accentuate the effect of the factors described. It has elsewhere been observed that "the rise in Latin America's share of total cacao production has not permitted an increase in the region's share of world exports of this commodity". This would appear to be due to the marked increase in domestic consumption in some countries in the region.18/

The foregoing observations, which touch only upon the more important aspects of the matter make it clear that in the next few years the international cacao market will continue to be a seller's market. Although there will still be violent price fluctuations, so long as their causes are not removed, the average level of relative prices of cacao will undoubtedly remain as high as in recent years. Mention must be made here, before the projection can be worked out, of a phenomenon to which these high prices may give rise and which may seriously disturb the future of the market. This relates to the way in which cacao consumers have reacted to the extremely high prices of the post war period. "In the long run the price of cacao beans may be profoundly affected by the twofold drive in many high-consumption countries, especially in the United States, for substitutes and for alternative forms of sweets and confectionery, which use much less cacao products. The drive for alternative confectionery has taken two forms: (a) a reduction of the quantity of cacao products used in chocolates by increasing the volume of milk, sugar, nuts and innumerable other ingredients; (b) expansion in production

18/ ECLA, Economic Bulletin for Latin America. "Recent trends in the exports and prices of some products: I. Cacao"; Vol. I, N° 1, Santiago, Chile, 1956, p.69.

and consumption of sugar and other non-cacao confectionery". Thus, for instance, whereas the use of cacao beans declined by 17 per cent in the United States in 1954, sales of chocolate goods declined by only 6 to 7 per cent, and at the same time the production and consumption of cacao confectionery increased appreciably.[19/]

Furthermore, efforts have been greatly intensified to develop an acceptable complete substitute for cacao beans, and research is going on in many laboratories to find a synthetic cacao-flavoured product and to endow various vegetable fats with the melting qualities of cacao butter. The forces which the high prices of cacao have set in motion may therefore, lead to the permanent disruption of the cacao market. However, discounting the possible discovery of adequate cacao substitutes, cacao prices should continue to be satisfactory to the producer. It is doubtful, of course, whether such exceptional prices as those reached in 1954 will recur, but taking into account the supply and demand possibilities it may be presumed that an average level of prices similar to those of 1955 and 1957 will continue.[20/]

Export projections. From the foregoing analysis the conclusion may be reached that cacao prices will in the future, assuming that no synthetic product is found which could radically alter the market situation, maintain an average level sufficient to stimulate production in Panama. Setting aside the possibility mentioned, the volume of exports will be determined primarily by the factors operating in connexion with supply, which were studied in the opening paragraphs of this section. Foremost among these factors is that relating to the banana company's plantations. As has already been indicated, these plantations produce about half the total national output, and cannot be expected to increase their production in the future. The possibilities of expansion therefore rest with the

19/ FAO, op.cit., p.69.

20/ Ibid. p.70.

independent producers and the producers' co-operative, since appearances would suggest that there are no new areas available of any importance. Thus, although serious efforts have recently been made by the Institute of Economic Development (an establishment set up by a rural credit agency in Bocas del Toro), by the Inter-American Agricultural Co-operation Service in Panama (which has centres for the propagation, development and sale of cacao cuttings and seedings, for research on native varieties of cacao, on the diseases "monilia" and "black pod rot" and on the best soils and ecological conditions for cacao, and for demonstrations on the control of diseases and the rehabilitation of plantations) and by the Inter-American Institute of Agricultural Sciences at Turrialba, Costa Rica (which trains experts in the technology of cacao production and disseminates information on production techniques) to encourage the opening of new plantations and the improvement of old ones, no substantial increase in production can be hoped for by 1966. As part of the programme, the Inter-American Agricultural Co-operation Service in Panama (SICAP) sold 25,000 selected cacao plants between 1954 and 1956 and a very few in subsequent years. This is barely 11.4 per cent of the existing number of trees [21], and since the plantations not owned by the banana company are very old it probably does not even compensate for the aging factor.

Bearing in mind that cacao plantations, although they begin producing at 5 years, do not reach full production until they are 7 or 8 years old, and that, as has just been shown, there were no sizeable new plantations before 1958, it will be seen that cacao production in 1966 cannot very much exceed the volume of recent years. It should also be remembered that in half the plantations - those owned by the banana company - production will at the most remain stable, while the yield from the remaining plantations will continue to decline as they increase in age. The only way of ensuring the maintenance of the present export levels in 1966 would be to inaugurate an immediate and effective programme for the granting of long-term credits, the establishment of new plantations, the

21/ SICAP and USOM/Panama, op.cit.

rehabilitation of existing plantations, the control of pests and diseases and the improvement of methods of production and treatment. This, then, will be the hypothesis underlying projection "B" of cacao exports of the coming decade. This projection is based on a volume of exports approximating to the average for the years 1954, 1955 and 1957 (some 1,500 tons), these being three years in which the average price - a unit value of exports of 0.83 cents per kg - was roughly equivalent to the figure anticipated for the future. The year 1956 was excluded in calculating the average because both the volume of exports and the price level that year were abnormally low. On the basis of these assumptions, hypothesis "B" would give a quantum of exports for 1966 of 1.1 million balboas at 1950 prices (an increase of 37.5 per cent over the exceptionally low level of 1956).

Hypothesis "A" of exports in 1966 is based on the same price assumptions as the other hypothesis, but does not imply a specific programme for the development of cacao production. In these circumstances, and for the reasons already given, export production could not be maintained at the average level of 1,500 tons. The progressive deterioration in the plantations and their increasing age would necessarily reduce production. If, as is possible, the banana company's plantations maintain their level of production, the total export volume will be made up of this minimum base plus whatever the independent and co-operative producers can export. If the latter's production should decline to one half its present volume, total production - of which the banana company would account for approximately 50 per cent - would fall by one fourth. If we accept this supposition as hypothesis "A", we arrive at a total volume of exports of 1,125 tons for 1966. In terms of the quantum - that is, at 1950 unit export prices - the 1966 figure would be 800 million balboas, which is practically the same as that for 1956.

(iii) Abaca. The banana company which accounts for by far the greater part of Panama's banana exports and half its cacao exports also formerly produced abaca in Panama. Partly in order to replace United States supplies which had been interrupted on the Japanese invasion of the Philippines, during the Second World War, and partly in order to make

some profitable use of land which had become unfit for banana growing, the banana company stepped up the production of abaca in Guatemala, Honduras, Costa Rica and Panama on behalf of the United States Government. Abaca production is now being continued only in Guatemala. Panamanian exports of abaca stopped in 1956[22], and in the normal course of events they are not expected to begin again.

A future expansion of abaca production by independent producers, although possible from the point of view of natural resources, is also unlikely. Present conditions on the international hard fibre market are not very favourable, and future prospects are even more discouraging. Moreover, the banana company's experiences in the production of abaca, despite the fact that they took place under the best possible conditions - which would not be the case with the independent producers - were said to be disappointing[23].

(b) Recent exports.

In chapter I a fairly detailed analysis was given of the development of exports during the post-war period, and the conclusion was reached that the most important phenomenon was the appearance during that period of various new export products (see Chapter I, section II.A.3). Among them mention may be made of the following: shrimps, sugar, cement and timber. In the next section we will consider the export prospects offered by these four products for the future.

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22/ May and Plaza; op.cit., p.104.

23/ Op.cit., p.145.

/(i) Shrimps.

(i) Shrimps. Quantum prospects and projection. In the past few years Panama's shrimp exports have taken second place among its registered exports. The growth of this industry, which is carried on mainly for export, has been sensational. In 1950, when it began, it had only eight fishing vessels, and the export volume was barely 138 tons. In 1953, when the export volume for the first time exceeded 1,600 tons, the fishing fleet had expanded to about 90 vessels. In 1956, exports reached 2,700 tons, and in 1957 - when the fleet numbered 122 vessels - it rose to 3,700 tons. Thus in the last-mentioned year this export activity, after only seven years of life, accounted for some 14 per cent of the total quantum of registered exports of goods.

But despite this exceptional growth in past years, indications for the future suggest that there will be a relative standstill at the export levels most recently reached, rather than a continuation of the trend described. The tremendous rise in the production and exports of shrimps during the present decade is in fact a normal stage in the early development of a fishing activity. This stage ends when the natural bounds imposed by the factor of fish population are reached. In Panama's case, these bounds now appear to have been touched. The exceptional increase in exports in 1957 by comparison with 1956 do not contradict this. The bulk of the country's exports - usually more than 80 per cent of the total - consist of the type of shellfish known as white shrimp or crayfish; the rest is made up of various smaller varieties, the most important of them being the red shrimp. But catches of white shrimp appear to have reached a maximum in 1956. Total exports were able to rise in the following year, and at an even sharper rate, only because of an exceptional catch of red shrimp.

But the determining factor in the long-term development of this activity is the size of the white shrimp catch. According to an official source,[24] the white shrimp catch remained unchanged from 1956 to 1957 although the fishing fleet expanded from 88 to 122 vessels

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24/ Report of the Fisheries Section, 1957-58; Ministry of Agriculture, Trade and Industry. Panama, 1958.

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- with an even greater expansion of tonnage - and although in addition 1957 was an exceptionally good fishing year. Consequently, whereas in 1955 and 1956 the white shrimp catch was about 700 kg per vessel-trip, in 1957 the average had fallen almost to half that figure.

These indications tend in general to confirm the conclussions set down a very few years ago in a survey made on shrimp fishing in Central and South America.[25/] It was suggested that the white shrimp catch in Panama might rise to a maximum of between 2,300 and 3,600 tons per year. Since in 1957 the total production of shrimp was some 4,000 tons - 3,700 for export and 300 tons for domestic consumption - and the red shrimp catch that year amounted to a little more than 1,000 tons, it may be thought that the average between the limit figures considered by the authors of the survey to represent the maximum white shrimp catch has been reached, namely 3,000 tons. However, the stabilization of the white shrimp catch in recent years cannot - as has recently been suggested - be considered the result of over-fishing and consequent depletion of resources. This is unlikely, because the white shrimp is characterized by rapid growth, a very short life-span (from 10 to 14 months) and a high mortality rate, with spawning several times a year.[26/]

Consequently, the production of white shrimp in what are at present the main fishing areas - the Panama Gulf and the Gulf of Chiriquí - will probably be maintained in the future at the level of 3,000 tons reached in recent years. On the other hand, there do not appear to be immediate possibilities of any significance in other fishing areas. Evidence of this is the fact that the Panamanian shrimp fishing fleet, having recently acquired an enormous surplus tonnage, has been sending large numbers of vessels into the shrimping areas of Ecuador, Colombia and northern Brazil.

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25/ United States Department of the Interior: Survey of Shrimp Fisheries of Central and South America, by Milton J. Lindner. Special Scientific Report No. 235 (Washington, D.C., 1957), p. 133.

26/ Memorandum by Mr. Juan L. Obarrio, Director of the Fisheries Section, Ministry of Agriculture, Trade and Industry, Panama, 1958.

/As indicated

As indicated above, the high total shrimp exports achieved in 1957 (3,700 tons) resulted from an exceptional catch of red shrimp. Red shrimp usually live in deep water in scattered populations, and are very difficult to catch. During the dry season, however, which coincides with northerly winds bringing deeper and colder masses of sea water towards the coast, there is a great migration of red shrimp into the shallower waters, where they can be caught. In 1957 the movement of cold waters continued for an exceptionally long time - 60 days - whereas in 1958, for instance, it lasted only 8 days. Hence there was an abnormally large catch of red shrimp which more than made up for the standstill in the white shrimp catch and produced the impression that the latter activity was continuing its vigorous expansion.

The above explanation also shows that unlike white shrimp fishing, red shrimp fishing has little effect on the fish population, since it covers only a short period of time. Consequently, in fishing of the latter type there are no natural factors limiting future possibilities. Of course, any more intensive fishing of red shrimp - throughout the year, say, and not during the dry season only - would confront the present fishing fleet with serious problems, since it would mean operating at greater depths and with a more dispersed population. Apart from these difficulties, present knowledge of the distribution, habits and numbers of this and other smaller species and of the market prospects, is not sufficient to permit any useful assessment of production potentialities in the near and middle future.

In view of the above observations, it is clear that 1957 cannot be taken as the basis for a reasonable projection. Failing more precise data - which will become available as the recently started researches develop - and bearing in mind the observations made above on the stabilization of the white shrimp catch at a level of some 3,000 tons, the latter figure will be taken as the basis of the projection, with an added 20 per cent to allow for catches of red shrimp and other small species. Thus, hypothesis "A" would give a figure of about 3,600 tons for production in 1966. From this figure a deduction has to be made

/for domestic

for domestic consumption, estimated for 1966 at 1,500 tons (see table IV-3). Under hypothesis "A", then, exports will amount to 2,100 tons in 1966; in other words there will be a fall of more than 20 per cent as against 1956.

It is, of course, possible that exports may increase through an expansion in the production of red shrimp and other small varieties. This, however, would entail further investment to permit deeper fishing or the development of new fishing areas, which would probably require their own ports and freezing plants. No objective figure can be attached to these possibilities, but they have to be borne in mind as indications of prospects for the capacity to import in the coming decade. For this purpose only, we shall assume, for hypothesis "B", that the 1957 export figure - 3,700 tons - will be maintained in 1966. Domestic consumption being projected at 1,500 tons for that year, total production would have to be 5,200 tons - an increase of 75 per cent over 1956. If we remember, in addition, that the production of white shrimp will remain stationary at about 3,000 tons, it will be seen that catches of red shrimp and other small varieties would have to rise to more than three and a half times their present normal level. And in spite of these very sizeable increases in production, exports in 1966 would be only 37 per cent above the 1956 figure.

Projection of export prices. Since shrimp exports are directed and will continue in the future to be directed primarily to the United States market - where they represent only a very small fraction of the total supply - it is reasonable to suppose that their prices will follow the trend of prices for this product in the United States. Assuming that shrimp prices in the United States will not undergo relative distortions but will follow the general price level, then the prices of Panamanian shrimp exports will rise at a rate of 1.5 per cent per year during the coming decade, that is, at the same rate which has been assumed for the index of the unit value of Panama's imports.

(ii) Sugar. Quantum prospects. During the period 1945-56 sugar production increased spectacularly, from some 4,000 tons in the first to some 14,000 tons in the last year of the period. In the years 1952, 1953 and 1954, however, production reached an average level of

/more than

more than 17,000 tons. This was due to exports of about 3,000 tons, the disappearance of which in the two following years reduced production to the level of domestic demand. In 1957, exports again, reached the figure of 3,000 tons registered in the two earlier years, and production thus recovered its peak. From the point of view of productive capacity, there would appear to be a fairly wide margin for expansion and no serious problems. Although the available area of land most suitable for sugar-cane cultivation is not very extensive, productivity could be greatly increased. Mill production capacity could also be substantially increased, since the mills are used for part of the year only. Export prospects depend entirely, therefore, on the absorption capacity of the international market.

It is a well known fact that the prospects in this respect are not very favourable, since there are very large low-cost producers who can meet the demand. Nevertheless, precisely because Panama is a very marginal producer on this market, it should be able to go on placing abroad the same volume of sugar as it exported in the years referred to above. The maintenance of this level of exports depends primarily on the United States continuing to grant Panama the same import quota. On the assumption that this quota will remain unchanged up to 1966, we shall adopt as a reasonable hypothesis a level of exports equal to the average for the period 1950-54, that is, 3,300 tons.

Assuming, on the other hand, that in its next sugar legislation the United States will grant Panama a larger quota, we shall adopt as hypothesis "B", for this projection double the above figure, that is, an export total of 6,600 tons.

Price prospects. In view of the long-term trend towards over-production and the activities on the international sugar market of large low-cost producers, we shall assume in this projection that the price obtained for Panama's sugar export on the United States market in 1966 will be 11.5 balboa cents per kg, the annual average for the period 1952-57.

/(iii) Cement

(iii) Cement. In 1948 a cement plant was established in Panama with a production capacity equal to that of its two kilns, the first having a capacity of 1,150 tons and the second a capacity of 2,150 tons daily. Given the operating characteristics of this industry, this means an annual productive capacity of some 90,000 tons. In the years 1951 and 1952, when exports reached 30,000 and 40,000 tons respectively, this capacity proved insufficient and it was found necessary to make a number of improvements in the plant to permit an increase of about 20 per cent. Thus, after 1952 - when a peak annual production of 103,000 tons was reached - the industry's capacity rose to 108,000 tons per year.[27/] Since that year, however, Panama's main external market - Central America - has considerably reduced its imports as a result of the installation and expansion of plants in El Salvador and Nicaragua. At the same time prices have fallen on the international market, and Panamanian cement, which is subject to high freight and shipping costs, has been losing its other markets. On the other hand, the internal and Canal Zone markets began during the same years, to expand, the first because of the general recovery of economic activity which began to become apparent, especially in investment and construction, and the second because 1951 saw the initiation of an extensive housing programme. All in all, however, the expansion of the domestic market was not sufficient to make up for the decline in exports, and cement production levelled off at around 80 per cent of the earlier figure.

Given the productive capacity referred to above, this implies a utilization of no more than 75 per cent. If conditions on the international market permit - and the Canal bridge building works and other works to be carried out in the Zone will not absorb a large quantity of cement - this margin of idle capacity could for some years be used to recover a higher level of exports and to increase the Panama's capacity to import. Over the longer term, however, the idle capacity will undoubtedly be absorved in meeting the need for construction

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27/ Posibilidades de un Mercado Común Centroamericano para las industrias de materiales de construcción. (E/CN.12/CCE/AC.6/6)

materials arising from Panama's relatively intensive economic development and the expansion of its basic social capital. So much so that by 1966 the present productive capacity will very probably have to be expanded, unless exports to the Canal Zone are reduced or imports of cement are resumed. Consequently, no exports of cement are projected for 1966.

(iv) Timber. Quantum prospects. The production and export of timber also passed through a boom period, roughly between 1951 and 1953, but thereafter production declined markedly. In consequence, exports also declined, and imports - which were undergoing rapid substitution - levelled off, and even increased somewhat in the last years of the period. The recent situation has been characterized by a great shortage of timber supplies, as a result of which the sawmills have been operating at half capacity. This is the result of the irrational and unplanned exploitation of the best-situated and best-quality timber resources in earlier years.

The main present and future problems of the timber industry are as follows: (a) the high cost of timber due to the increasing inaccessibility of the felling areas; (b) the use of such primitive methods that the yield from the volume of felled timber placed on the market is estimated at barely 25 per cent, and (c) ignorance of the real extent and condition of Panama's forests. In these circumstances, it is extremely difficult to estimate the prospects for the timber industry in the coming decade. On the one hand, opinion at large and reliable studies affirm that the country enjoys great potential wealth in its forests. On the other hand, considerable concern has been expressed at the way in which this wealth has been exploited in the past, for it is feared that the country's forest resources are being irreparably damaged.

In any event, in view of the specific difficulties at present confronting this industry and the increase which will inevitably take place in building and furniture-making during the coming decade (see chapter IV, sections II and III), it may be accepted that any

appreciable expansion in timber exports in the next ten years is practically impossible. Accordingly, hypothesis "A" for this projection will be based on the figure of the average reached during the years 1954-56. This would mean a volume of exports in 1966 of approximately 5 million cubic feet, giving a quantum of 0.4 million balboas at 1950 prices.

There would not appear to be any reasonable point in calculating a projection "B" for timber exports. Indeed, considering the circumstances mentioned above and the fact that there are still imports to be substituted, even the maintenance of the present volume of exports could well be considered to be based on such a projection. Finally, any more intensive exploitation of Panama's timber wealth - taking care to maintain or even increase it - will require full knowledge of the country's forest resources and the formulation of a national policy for their exploitation. Neither of these can be improvised, and the survey of resources in particular take considerable time. Only the fact that in productivity and production methods significant progress can be made in a relatively short time permits us to accept the maintenance of the present level of exports as a reasonable hypothesis.

Price prospects. The unit values of timber exports have fluctuated considerably over the last decade. This has been due primarily to changes in the distribution of these exports as between fine woods and construction timber. Since it would be impossible to undertake a detailed study of this subject, we shall take as the unit value of exports in 1966 the average for the years 1953-55. During these years the unit value was the highest for the period (13 cents per cubic feet), and we shall accept this as an adequate basis for the projection since it is reasonable to expect that Panama will specialize in the export of fine woods.

/(c) New exportable

(c) New exportable products

As has been indicated, the intensification of Panama's economic development demands a firm policy of export expansion. A policy of this kind, however, cannot be confined to increasing exports of traditional items and items recently introduced into the country's export trade, but must also promote the launching of new export lines. But it will be seen below that these possibilities of diversification do not, even on the most optimistic assumptions, warrant any important change in the estimate of Panama's foreign trade prospects. The new export lines in question consist of a number of items which could not possibly reach any very sizeable scale in a single decade and which, even in the aggregate, could not play a very important part - even one comparable with, say, exports of shrimps. The prospects for Panama's capacity to import are, however, so critical that any efforts made to improve them however great, will appear insufficient. Unless important mineral or petroleum deposits are found in Panama's subsoil, and rapidly become a factor stimulating economic growth, the country will have to depend for any intensification of its rate of development on the painful process of taking the maximum advantage of its limited export possibilities and on speeding up the substitution of its imports.

Panama's best export prospects in the coming decade are undoubtedly to be found in meat production. For this reason, and because of the importance of the development of stock-farming for any general increase in the level of agricultural productivity, the prospects for this activity will be studied here in some detail. The other products which might possibly be exported during the coming decade are much less important, and for most of them information is extremely scarce. Consequently, with the single exception of coffee, which will also be given fuller consideration, only a general survey of the possibilities they offer and a very rough estimate of their combined volume will be given.

/(i) Meat.

(i) Meat. Quantum prospects. The main problem affecting stock-farming in Panama is the low birth rate of the stock. The present rate is slightly under 30 per cent for all females 2 years of age and older. When it is remembered that in the best technical conditions birth-rates of 80 to 90 per cent can be achieved, it becomes clear how low the present level is and what great possibilities there are for improvement. This low rate is due mainly to the following factors: (a) poor sanitary conditions, (b) inadequate feeding standards, and (c) very primitive stock-farming management. Poor sanitary conditions and lack of proteins in the diet cause a high rate of abortions. But the main reason for the low birth-rate appears to be the poor distribution of the herds as regards the proper proportion of females to freed males during the mating season. This fact, particularly where, as in Panama, stock-farming is carried on on the open range, results in a very small proportion of females being served annually.

Thus, a change in stock farming practices could bring about a substantial increase in the birth-rate. All that would be neccessary would be to distribute the herds more suitably by installing fencing, so as to be able to form groups of proper size, regulate their sex-distribution and organize the breeding process efficiently. With such a programme, which would be easy to carry out, the birth-rate for 1966 could probably be raised to 40 per cent of the total number of females of reproductive age.

The mortality rate among young cattle in Panama averages 22.1 per cent of the total number of births. The main reasons for this high mortality rate are poor sanitary conditions and inadequate feeding methods. As in the previous case, there are great possibilities for improvement: by applying modern techniques mortality among male calves could be reduced to 5 per cent. This being so, it seems reasonable to suppose that between 1956 and 1966 the mortality rate in the lower age groups could be reduced by a little more than half: from 22.1 to 10 per cent. From the technical point of view, it is believed that the achivement of mortality rate of 10 per cent would not make excessive demands. Efforts would have to be concentrated on the improvement of sanitary conditions and the intensification of programmes for the control of parasites and

/deseases. In

deseases. In addition, the diet for calves would have to be rationalized and improved by using concentrated mineral - and protein - rich food.

The slaughter rate reached in the last few years has been 12.6 per cent per year of the total cattle population. However, technical experts believe that the slaughter rate could be raised to 30 to 40 per cent of the population. It is clear that the only limiting factor on an increase in the rate is the need to maintain an adequate rate of increase in total cattle numbers. This in turn is determined by the net result of the birth and mortality rates.

The slaughter rate can also be expressed as a function of the size and sex-distribution of the groups over 2 years of age, since it is these groups which in practice account for all meat production. This is the best method to use in making the projection, since changes in birth and mortality rates will bring about changes in the structure of the livestock population itself. The proportion of young cattle - below the productive age - will increase substantially during the first stages of the process, so that a projection of the over-all slaughter rate would give very misleading results. It has therefore been assumed that the slaughter rate for males over 2 years of age - at present 46.2 per cent of the total number - could rise to 75 per cent in 1966 and that the slaughter rate for females could be maintained at its present level of 8.6 per cent. The latter assumption is in line with the need for the greatest possible increase within the near future, of the growth capacity of the cattle population. The number of females of reproductive age is clearly of fundamental importance in the meeting this need.

On the basis of these assumptions - a summary of which will be found in table III-6 - the cattle population will increase by 29.8 per cent over the coming decade. In 1966 there would thus be a total population of 763,000 head increasing at an annual rate of 3.3 per cent. This hypothetical situation represents a great improvement on present conditions, which would lead at the best, to a marked stagnation. Acording to the projection annual slaughterings would increase by 26.1 per cent, reaching a figure of

/Table III-6

Table III-6

PANAMA: BASIC ASSUMPTIONS USED IN PROJECTIONS OF BEEF CATTLE PRODUCTION

(Percentage)

| | Present | 1966 | |
|---|---|---|---|
| | | A | B |
| Birth rate | 30.0 | 40.0 | 70.0 |
| Mortality rate, male calves | 22.1 | 10.0 | 10.0 |
| Rate of slaughter, males over 2 years of age | 46.2 | 75.0 | 90.0 |
| Rate of slaughter, females over 2 years of age | 8.6 | 8.6 | 15.0 |
| Overall rate of slaughter | 12.6 | 12.2 | 15.7 |
| Yield in butcher's meat per head of cattle (kg) | 210.0 | 220.0 | 220.0 |

Source: See text.

a little less than 95,000 head in 1966. Slaughterings would in that year be increasing at an annual rate of 2.8 per cent; but as a result of the change in the structure of the livestock population during the next decade, the over-all slaughter rate would be 12.2 per cent - slightly less than the present figure.

In order to obtain a figure for the volume of meat production at the end of the period, we must first draw attention to the assumption adopted as regards stock farming productivity. The present stock yield in terms of butcher's meat is on an average 200 kg per head. This figure speaks well for Panama's stock-farming industry, being much higher than the average yield recorded in the rest of Central America. The future trend of the meat yield per head of cattle will depend to a large extent on what improvements are introduced in cattle breeds and in feeding practices. The hypothesis adopted is based principally on this second consideration; it is assumed, that is that an intensive programme will be introduced to improve the dietary conditions of the livestock population. Specifically, a rise of 10 per cent has been assumed in the meat yield per head of cattle, i.e. an increase to 220 kg. per head in 1966. On this basis, the annual meat output - at present a little more than 15,500 tons - would be 21,700 tons in 1966 an increase of almost 39 per cent. However, since the level of internal consumption projected for the end of the period is of a similar order (see table IV-13) the hypotheses employed give a production projection which does not allow of any exports of cattle or meat.

Although the hypotheses on which this projection rests imply a substantial technical improvement in stock-farming, it is felt that they would not demand disproportionate effort. The above projection could therefore be considered as hypothesis "A". Its main interest lies in the fact that despite the effort which would have to be made and the improvements assumed, export prospects for the coming decade are nil if they are not to be achieved at the expense of the already meagre internal consumption.

/A hypothesis

A hypothesis "B" on the future trend in the production of beef cattle - based on the assumption of an intensive effort to foster this activity - would retain the same assumptions regarding the mortality rate among lowerage-groups and the yield of butcher's meat per head or cattle slaughtered, but would modify the assumptions relating to birth and and slaughter rates. It has thus been assumed that the birth-rate might rise to 70 per cent in 1966 and that the slaughter rate from males and from females over two years of age could be raised to 90 and 14 per cent respectively. A gradual improvement has similarly been assumed in the quality of the cattle, as a result of a moderate investment programme to improve breeds by importing breeding cattle, introducing artificial insemination services, reproducing pure strains of cattle, and so on.

The assumptions used for hypothesis "B" would necessarily entail a marked improvement in present cattle-feeding practices. It must be remembered that this would in fact call for the execution of broad, effective and well-co-ordinated programme for the introduction and ensilaging of varieties of protein rich - fodder grasses, the installation of fencing and the organization of technical training in herd management and the production and use of supplementary food concentrates. The production of the latter would entail the industrialization of a number of agricultural waste materials, such as uncrystallizable sugar-cane syrups, and the use of fish flour and other protein - and mineral - rich substances.

If the prerequisites for hypothesis "B" were fulfilled, the cattle population could rise to a million head by 1966 - an increase of 71 per cent over the present figure. Slaughterings would increase to 158,000 head of cattle per year, - 114 per cent above that of recent years. In addition, the annual rate of growth of the cattle population would have risen to 5.5 per cent and slaughterings would be increasing by 7.9 per cent per year. At the same time the over-all slaughter rate would have risen to 15.7 per cent. If the slaughtering in 1966 amounted to 158,000 head of cattle, this would be equivalent to some 36,900 tons of butcher's meat, 60 per cent more than the quantity projected for domestic consumption for

/that year.

that year. Thus, a little more than 13,000 tons of meat per year would remain available for export (for a summary of the assumptions underlying hypothesis "B" see table III-6, already referred to).

Prices. Apart from some trade among themselves, the Central American countries have only recently begun exporting beef. The principal markets are at present Curaçao, Trinidad, Venezuela and Peru; but the United States market is taking shape as an important possibility. Up to now, Panama has exported small quantities of beef on the hoof to Curaçao, but agrements have been reached which will facilitate future access to the United States meat market.

The unit value of Costa Rica's meat exports to the United States in recent years has fluctuated between 0.35 and 0.40 dollar per kg. This adequately reflects the present market situation. There is very little that can be said about the future behavior of prices of this market, in the absence of information which could be obtained only from a very thorough study of the problem. There are indications that the present favourable conditions for exports of low-quality meat - the product which is being exported - are temporary and due only to the current phase in the cycle of United States cattle stocks. It is probable, however, that with the increase in per capita incomes in the United States, the demand in that country for better-quality meat will greatly increase, with a consequent improvement in prices. Assuming that Panama's exports will go to the United States market and will improve in quality - as hypothesis "B" postulates - we shall take it, for the projection, that Panama will be able to place its exportable meat surplus on the external market at a price of 0.50 dollar per kg.

/(ii) Coffee.

(ii) Coffee. Export quantum prospects. In the last few years Panama's coffee production has been sufficient to supply domestic consumption. Owing to the variability of production from year to year, however, the country has had to import a small quantity of coffee in some years; but in the best years it has also been able to export small quantities. In view of the low productivity of coffee growing in Panama - there being no plantation system, strictly speaking - and of the fact that there are still suitable areas available for cultivation, it has been urged recently that coffee could become an important export item. According to one investigation, present production could easily be quadrupled in the coming decade; according to another, it could be more than doubled and could add no less than 3.0 million balboas to the value of exports.[28/] Both projections are undoubtedly possible from the point of view of the country's natural resources and of the actual conditions affecting prospects for extending coffee-growing.

But a projection based exclusively on these considerations cannot be accepted as a final judgement: there are at least two other elements to be taken into account. The first relates to conditions on the international coffee market, the future prospects of which are frankly gloomy, and the second relates to the possible alternative use of the scarce high land available for coffee cultivation for crops which are more useful from the point of view of the economy as a whole.

As regards the first point, it may be recalled that the exceptional conditions prevailing in the international coffee market during the post-war period - which gave such an extraordinary impetus to production in a great number of countries, including Panama - came to an end in 1954. The post-war decade was characterized by a steady and substantial increase

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28/ Inter American Agricultural Co-operation Service in Panama and Division of Agriculture and Natural Resources - USOM/Panama, Agriculture in Panama. A Review of Conditions in Panamanian Agriculture with Tentative Recommendations for Improvement, (Panama, 1958), section on coffee; and International Bank for Reconstruction and Development, Agricultural Development of Panama, (P.A. Reid), Washington, 1957, p. 27.

/in coffee

in coffee prices resulting from the fact that whereas world consumption was expanding with the increase in population and per capita incomes, production remained at a very low level owing to the prolonged depression which had prevailed on the coffee market during the 1930's and had greatly restricted coffee-planting. The rise in prices led in turn to a marked increase in the number of coffee plantations, not only in the traditional producer countries but in many others. When these new plantations went into production, both production and exports began to increase to such an extent that they overtook and outstripped the increase in demand, so that the accumulation of stocks began anew. As a result of this change in world market conditions, the uninterrupted price rises which had characterized the post-war period came to a halt in 1954. In 1955 there was a violent fall, followed in the next three years by relative stability. Very recently, however, the underlying tendencies have become clearly apparent. The prospects of enormous crops in Brazil and the accumulation of large stocks are bringing about a new and serious contraction of prices, which the producing countries are making desperate efforts to stabilize by means of agreements for holding surpluses off the market.

The market prospects for the next ten years suggest that these tendencies will be maintained and perhaps even accentuated. A recent projection indicated that even if consumption went on increasing at the high post-war rate, production would expand even more rapidly.

Thus, the main characteristics of the world coffee market in the next ten years will be an enormous accumulation of stocks, with consequent pressure on prices. On the most optimistic of hypotheses, this projection foresees for 1966 a volume of stocks of more than 40 million bags, equal to about 80 per cent of world consumption that year.

In view of the above, price prospects cannot in any way be considered favourable. In the best of circumstances - if restrictions were placed on production and exports, consumption encouraged and an agreement reached for the stabilization of prices - there would still be little hope of prices higher than those of the last two months of 1958.[29] In these conditions,

29/ For a fuller and more detailed analysis of the trend and prospects of the international coffee market, see Analyses and Projections of Economic Development, VIII. The Economic Development of El Salvador (E/CN.12/495).

/the chances

the chances of Panama's placing its potential production on the world market are rather slight, and coffee-growing ceases to offer the producer the alluring prospects of earlier years.

Since, furthermore, high land is rather scarce in Panama and is for the most part already occupied by coffee plantations, it is pertinent to ask what would be the most rational way of using the small amount of land still available. Panama could, like other Central American countries, use this land for increasing production of certain temperate-zone agricultural products such as potatoes, onions, apples and other non-tropical fruits and vegetables. In 1956, imports of such products, both natural and processed, exceeded 2 million balboas (CIF value, at current prices). There is also an export market for these products of some size in the Canal Zone. Furthermore, these are items for which demand is increasing relatively rapidly - the income-elasticity of demand for them has been equal to or more than unity - so that they could become the basis of a very promissing commercial agriculture. Again, as is made clear in chapters II and IV, Panama will have to make an intensive imports substitution effort in order to lessen the pressure on the external sector; and among the possible substitution items are imports of non-tropical fruits and vegetables, both natural and processed. Thus, the high land still available could be used for the production of such foodstuffs.

For these reasons, projection "B" in this study is based solely on an increase in coffee production deriving from increases in productivity in the areas at present under coffee plantations, leaving aside the question of possible increases in the area planted.

What possibilities for increases in productivity does Panama offer? According to 1950 census data, the density of coffee trees per hectare is extremely low: an average of about 1,000 trees. In El Salvador and Colombia the density is estimated at 2,000 and 2,500 trees per hectare, with a yield of 0.33 kg. and 0.25 kg. per productive tree respectively.30/

30/ See Food and Agriculture Organization of the United Nations, Coffee in Latin America: I. Colombia and El Salvador, Mexico, 1958, (E/CN.12/490), pp. 117 and 25 respectively.

/In 1950,

In 1950, the yield per productive tree in Panama was similar to that in Colombia, but in 1957 it fell to 0.16 kg, owing probably to the greater proportion of trees of excessive age. If the present programme for increasing the productivity of coffee plantations is revised and intensified in the years to come, it might be possible at the end of a decade to achieve a density of 2,000 coffee trees per hectare and to recover the productivity per tree registered in 1950. In other words, the aim would be to attain the conditions prevailing in Colombia in recent years. If this could be done, Panama could in 1966 produce some 5,400 tons of coffee.[31] This would be more than double the 1956 output and, assuming domestic consumption of 3,300 tons in 1966 (see table IV-13), would mean an exportable surplus of 2,100 tons in that year. The insignificance of this figure in relation to world demand permits the assumption that the surplus could easily be placed on the international market, and this figure will therefore be adopted as hypothesis "B" in this projection.

As has already been said, the number of coffee trees planted has been increasing in recent years, and efforts have been going on to improve productivity and expand the area of plantings. It is reasonable, therefore, to expect production to rise in the coming decade, although it is difficult to specify the size of the probable increase. On the one hand, since efforts are to be aimed, not at raising the density of trees per hectare but at increasing their yields, the increase in production on this account would be less than under the assumptions in hypothesis "B". On the other hand, production would increase as a result of the extension of the area planted, whereas in the other hypothesis this factor remains constant. Thus, the increase in coffee production which will probably take place could possibly be very similar to that of projection "B", which

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31/ The number of coffee trees in production in 1950 was estimated at 10.7 million. In 1966 there would be 21.4 million coffee trees producing 0.25 kg. each, i.e. a total production of 5,400 tons. This is equivalent to assuming that the number of coffee trees in production in 1957 - 14.2 million will have increased by 50 per cent by 1966 and that the productivity of 1950 will be recovered.

/assumes a

assumes a constant planted area. For want of better data, that assumption will be adopted for this projection, and accordingly hypothesis "A" will give the production and export figures quoted above.

It is important to point out, however, that although from the point of view of production the two projections are identical, from the point of view of the utilization of resources they have a very different significance. Projection "B" implies the more efficient use of a scarce and limited natural resource and as a result a higher productivity from this resource both in terms of coffee production and in terms of non-tropical fruit and vegetables.

Price prospects. In an earlier paragraph of this analysis the future prospects of the coffee market were outlined in broad terms and it was concluded that even in the best circumstances future international prices could not be more than 40 cents per pound (88 cents per kg.). Accepting that hypothesis for this projection, we obtain a value of 1.7 million balboas for coffee exports in 1966.

(iii) Other new export products. Panama offers favourable prospects for the export of a number of new products, but the actual possibilities cannot be analysed in detail for want of essential data. However, it will be useful to review these possibilities briefly and to assign an arbitrary aggregate value to these new exports in 1966.

Metallurgical products. In the second half of 1958 a metallurgical plant began operating in Panama; it has a productive capacity of some 18,000 tons and uses a raw material scrap metal obtained from the Canal Zone and from the Panamanian market itself. In its initial stage it is producing steel construction bars only, but its future plans include the production of flat bars and small structural sections, wire products and so forth.

The market for corrugated building bars amounts at present to between 6,000 and 7,000 tons per year in Panama and between 5,000 and 6,000 tons in the Canal Zone. The plant will therefore be producing in its early years with a considerable surplus capacity, which may offer an opening for export. But as in the case of cement, an increase in investment and construction during the next ten years, in accordance with the hypotheses established in chapter IV, would eliminate these export possibilities.

Fish flour. Two plants for the manufacture of fish flour were recently set up in Panama, but only one of them appears to have begun regular production. Both are based on the use of the fish caught in conjunction with the shrimp catch. They have met with major difficulties: firstly, the location of the plants - especially of one of them - is decidedly inconvenient, and secondly, the conservation of the fish in sufficient quantities to make production possible on an economic scale is a serious problem.

There is a large domestic market for fish flour, especially for use in the manufacture of animal feeds and the production of oils and fertilizers. But the structural problems of the factories, and the absence of scientific data on the yield from the raw material in terms of proteins, oils, etc. make it difficult to assess the possibilities for this industry in objective terms. Nevertheless, these plants represent a considerable investment and offer an idle margin of installed capacity which should not be wasted. It is very probable, moreover, that the problems described will not prove insuperable and that these industries may even be able to contribute within ten years to Panama's capacity to import.

Rubber. In recent years the world market for natural rubber has offered fairly promising prospects. Proof of this is the fact that some of the main undertakings using this raw material have established new plantations in certain Latin American countries, including Costa Rica and Brazil. Panama has some experience in rubber plantations thanks to an experimental station at Catún owned by the Inter-American Institute of Agricultural Sciences at Turrialba. Recent experiments appear to have resulted in fairly high yields, and it seems that there are good prospects for the production and export of rubber by Panama. However, rubber trees need 5 to 8 years before they can produce latex, so that even though the possibility is interesting it would be difficult for Panama to achieve any appreciable rubber output by 1966.

Plantain. Exports of plantain rose substantially from the latter part of 1956, and more particularly in 1957; so much so, in fact, that they had to be restricted owing to the shortage which arose on the internal market.

/These exports

These exports went to the United States, where consumption has greatly increased, particularly in certain towns where there are large Latin American minorities. Supplies of plantain from the traditional exporters - especially Puerto Rico - appear to have declined in recent years, and this has resulted in boom in the exports of Panama and other producing countries.

There is very little information about this market, its size, stability and rate of growth being unknown. But given Panama's ample production possibilities, exports of plantain could assume some importance. Further, since this is a product typical of subsistence agriculture, the process could have important repercussions by incorporating a large sector of agriculture into the money economy.

Eggs and chickens. According to recent information, one of the large United States companies in this branch has definite plans for the establishment in Panama of an export egg and chicken industry. It has not been possible to obtain direct information on the likely volume and value of this company's production and exports.

(iv) Projection of exports of new minor products. As has been stated above, there are no objective data available on the prospects for the export of these products. It is very likely that some of them - and other items which have not been considered - may develop during the next decade. From the point of view of this projection it would probably be a greater mistake to ignore these possibilities than to give them an arbitrary value. Bearing in mind, too, the purpose of projection "B" - to illustrate the problems which confront Panama even on the most optimistic assumption of its future capacity to import - we shall take as the quantum of the aggregate possible exports of metallurgical products, fish flour, rubber, plantains, eggs and chickens, the arbitrary values of one million balboas for hypothesis "B" and half a million for hypothesis "A". This latter projection is necessary because some of the possibilities referred to are in fact already a reality, or will soon be so.

(d) Other exports

This is a small group consisting of various traditional and newly-developed products which have accounted for less than 5 per cent of total registered exports during the post-war period. The single exception was the year 1945, in which the proportion was much greater not because the absolute value of the exports in question was very high that year, but because

banana exports were very low. For the purposes of this projection it will be assumed that "other exports" will grow proportionately to the total exports of registered goods under both hypothesis "A" and hypothesis "B". Thus, the volume of these exports would rise to 0.8 million balboas in the first case and 1.2 million balboas in the second.

(e) Summary of projections of the quantum of registered goods

The projections by products given in the earlier sections produce the following aggregate result: the quantum of registered exports of goods will rise from 23.7 million balboas in 1956 to 28.1 million balboas in 1966 under hypothesis "A" and 40.8 million balboas under hypothesis "B" (table III-7) - an increase of barely 19 per cent in the first case and of 72 per cent in the second. The wide divergence between the two figures should cause no surprise, since the second - as was explained in detail in the introduction to this chapter - is based on the assumption of a resolute and intensive effort to bring about an appreciable increase in exports of goods and services. Furthermore, the year taken as the basis of comparison was entirely abnormal in many ways; 1956 was a particularly poor year for exports of certain agricultural products, especially bananas and cacao. Thus, if we use not that year but the previous one as the basis of comparison, the percentage increases projected would fall to 4.2 and 51.1 per cent respectively.

The influence of the new exports which might be developed in the next decade is the decisive factor in the marked increase which characterizes hypothesis "B". The hypothesis assumes that this group, which constituted barely 3.1 per cent of the total exports of registered goods in 1956, will have increased to 21.6 per cent of the total in 1966. The new products which it is assumed will acquire greater importance will be coffee and meat, especially the latter, which will move up to a share of 11.3 per cent of total exports. Traditional and recently developed exports will on the other hand decline comparatively in importance, from 96.9 per cent to 78.4 per cent. One important element in this relative contraction will be banana exports, which will decline from 77.1 per cent of the total in 1956 to 61.0 per cent in 1966. Another cause of the decline in the relative

/Table III-7

Table III-7

PANAMA: PROJECTION OF QUANTUM OF REGISTERED EXPORTS OF GOODS

(Thousands of balboas at 1950 prices)

| | 1956 | 1966 | |
|---|---|---|---|
| | | Hypothesis A | Hypothesis B |
| Bananas | 18 264 | 20 497 | 24 890 |
| Cacao | 825 | 781 | 1 065 |
| Shrimps | 3 286 | 2 545 | 4 484 |
| Sugar | 10 | 528 | 1 056 |
| Cement | 33 | - | - |
| Timber | 536 | 437 | 437 |
| Meat | 18 | - | 4 620 |
| Coffee | - | 1 995 | 1 995 |
| Miscellaneous new products | - | 500 | 1 000 |
| Other exports | 736 | 846 | 1 226 |
| Total | 23 690 | 28 129 | 40 773 |

Source: See text.

importance of recent exports will be the standstill in shrimp exports. These had risen to a proportion of 13.9 per cent of the total in 1956: but according to hypothesis "B" this share will fall to 11.0 per cent in 1966.

In the case of hypothesis "A" although here too exports of new products acquire some significance - some 11.9 per cent, consisting mostly of coffee exports - the small rise will be mainly due to the recovery in exports of bananas and sugar, apart from an increase in exports of minor products.

/2. Terms

2. Terms of trade prospects

(a) Projection of export prices

Table III-8 summarizes the projections of the unit values of exports of the eight products which have been examined separately. In order to estimate the appropriate weighted index of the unit value of exports, each export price was multiplied by the quantities exported under the two hypotheses. The total current value of this group of exports in 1966, so calculated, was divided by the export quantum for the same eight items in that year (see table III-7) and the weighted index of export prices thus obtained directly. Taking as the base 100 = 1950, the index showed a value of 117.9 in 1956, increasing to 134.2 in 1956 under hypothesis "A" and 135.8 under hypothesis "B". The slight divergence between the two index numbers is due entirely to the difference in the structure of exports under the two hypotheses for only one price projection was made (see table III-9).

(b) Projection of unit values of imports

In estimating the future trend of the index of unit values of imports it must be noted, in the first place, that Panama's imports derive in large part from the United States and will no doubt continue to do so, in similar proportions, in the coming decade. If there are no major changes in the proportion of the cost of imported articles arising from freight and insurance charges, it is clear that the main factor determining the trend of the unit values of Panama's imports will still be the evolution of prices in the United States. Over the last decade the unit values referred to have followed a curve practically parallel to that of the United States wholesale price index. It would seem reasonable to suppose that this parallelism will continue in the future, and accordingly, that the future trend of Panama's import prices index will be determined by the general price level in the United States.

What, then, may be expected to be the future trend of the general level of United States prices? The obvious likelihood is that prices will continue to show in the future a rising trend. This assertion is not based solely on observation of the trend of price indices since the

Table III-8

PANAMA: PROJECTION OF CURRENT VALUE OF REGISTERED EXPORTS OF GOODS

| | Projection of unit value of exports (balboas per kg) | Projection of quantity exported (tons) | | Projection of current value of exports (thousands of balboas) | |
|---|---|---|---|---|---|
| | | Hypothesis A | Hypothesis B | Hypothesis A | Hypothesis B |
| Bananas | 4 025 a/ | 7.0 b/ | 8.5 b/ | 28 175 | 34 213 |
| Cacao | 0.83 | 1 100 | 1 500 | 913 | 1 245 |
| Shrimps | 1.90 | 2 100 | 3 700 | 3 990 | 7 030 |
| Sugar | 0.115 | 3 300 | 6 600 | 380 | 759 |
| Cement | - | - | - | - | - |
| Timber | 0.13 c/ | 5.0 d/ | 5.0 d/ | 650 | 650 |
| Meat | 0.50 | - | 13 200 | - | 6 600 |
| Coffee | 0.88 | 2 100 | 2 100 | 1 848 | 1 848 |
| Total | - | - | - | 35 956 | 52 345 |

Source: See text.

a/ Balboas per stem.

b/ Millions of stems.

c/ Balboas per foot.

d/ Millions of feet.

/Table III-9

Table III-9

PANAMA: PROJECTION OF TERMS OF TRADE OF REGISTERED EXPORTS OF GOODS

(Indices, 1950 = 100)

| | 1956 | 1966 | |
|---|---|---|---|
| | | Hypothesis A | Hypothesis B |
| Indices of unit values: | | | |
| a) Of exports | 117.9 | 134.2 | 135.8 |
| b) Of imports | 108.5 | 125.9 | 125.9 |
| Index of terms of trade | 108.7 | 106.6 | 107.9 |

Source: See text.

war. There are in addition the facts, first, that the United States Government is committed by law to the maintenance of full employment and secondly that organized trade union action is very powerful in the United States. These factors, and the further fact that the United States economy has already developed a series of institutional mechanisms tying wages to prices, clearly point to a rising trend in the general level of United States prices.[32] The history of the recent recession would appear to confirm this: despite a distinct falling off in economic activity and a considerable increase in unemployment, prices did not undergo the decline which was anticipated and which is normal in such circumstances.

Nor would it be very difficult or hazardous to advance a hypothesis on the probable rate of increase in the general level of prices during the coming decade. Between 1950 and 1956 the index rose at a cumulative annual rate of about 1.7 per cent. This rise was due in part, however, to the appreciable rise in prices during the Korean war years. But in the more recent years annual increases of around 3.0 have been registered, and have led to the adoption of various measures for the control of inflation. It may be accepted, then, that this latter rate of increase

32/ Other arguments in support of this hypothesis, and relating especially to certain features of United States economic policy, may be found in: John K Galbraith, The Affluent Society (Cambridge, Mass., USA, 1958), in particular chapters XV, XVI and XVII.

/in prices

in prices is not considered tolerable in the United States, and that when the rate approaches that figure steps will be taken to halt the rise. Given this upper limit and the basic assumption that there will be a positive rate of increase in prices, it may be considered reasonable to suppose that the average rise in the general level of prices in the United States during the coming decade will be of the order of 1.5 per cent per year.

In accordance with the arguments set forth earlier regarding the dependence of the index of the unit prices of Panama's imports on prices in the United States, that index should similarly increase by about 1.5 per cent per year up to 1966; and this is the hypothesis which will be adopted in gauging the future trends in Panama's terms of trade, both as regards exports of registered goods and in other sectors.

(c) Projection of the terms of trade

From the projections of the unit value of exports and the unit value of imports given in the two previous sections, we can obtain directly the projection of the terms of trade index. The relevant data have been brought together in table III-9, which shows export prices rising slightly less than import prices during the coming decade, the index of the latter rising by 16.0 per cent, and that of the former by 13.8 per cent under hypothesis "A" and 15.2 per cent under hypothesis "B". Thus the terms of trade would deteriorate slightly, by 1.9 per cent in the first case and 0.7 per cent in the second.

3. Projection of capacity to import generated by registered exports of goods

The projections given in earlier paragraphs have together enabled us to obtain a figure for the two determining factors in the capacity to import, the quantum and the terms of trade. We can now, therefore, obtain a projection of Panama's external demand in 1966 under hypotheses "A" and "B" (see table III-10, where the bases of the calculation are indicated).

/Table III-10

Table III-10

PANAMA: PROJECTIONS OF QUANTUM, TERMS OF TRADE AND CAPACITY TO IMPORT OF REGISTERED EXPORTS OF GOODS

| | 1956 | 1966 Hypothesis A | 1966 Hypothesis B |
|---|---|---|---|
| | Millions of balboas at 1950 prices | | |
| Quantum | 23.7 | 28.1 | 40.8 |
| Terms of trade | 108.7 | 106.6 | 107.9 |
| Capacity to import | 25.7 | 30.0 | 44.0 |
| | Indices | | |
| Quantum | 100.0 | 118.6 | 172.2 |
| Terms of trade | 100.0 | 98.1 | 99.3 |
| Capacity to import | 100.0 | 116.8 | 171.2 |

Source: See tables III-8 and III-9.

Under the first hypothesis, the capacity to import deriving from registered exports would rise from 25.7 million balboas in 1956 to 30.0 million balboas in 1966, an increase of 16.8 per cent. This is slightly less than the increase in the quantum, the difference being due to the slight deterioration in the terms of trade; the quantum rises by 18.6 per cent during the same decade.

Under the second hypothesis, the increases in the capacity to import and in the quantum are practically identical, the terms of trade deteriorating to a negligible degree. On the other hand, the rise in external demand is appreciable in this case, amounting to 71.2 per cent between 1956 and 1966 - an annual rate a little above 5.5 per cent. As will be remembered, the capacity to import practically doubled during the period 1945-56, but most of this increase took place during the first two or three years after the war with the recovery of banana exports. Apart from this increase, external demand during the rest of the period was rather stationary; between 1948 and 1956, indeed, it was negligible, amounting to barely 13 per cent. If the comparison is made with the most favourable year, 1955, the figure still remains not more than 28.7 per cent. Thus, projection "B" means in reality a considerable intensification of external demand for registered goods.

## III. TRAFFIC AND TOURISM

In analysing, in chapter I, the capacity to import generated by transactions connected with traffic and tourism, the following categories were distinguished: (a) registered re-exports of goods, (b) operations in the Colón Free Zone, (c) sales to ships and aircraft in transit, (d) expenditures of foreign visitors and (e) expenditures of foreign diplomats resident in Panama. In the projection these five categories have been reduced to four, because transactions connected with sales to ships and aircraft in transit have been almost entirely absorbed by the Colón Free Zone, and it is expected that this process will be completed in the near future. The following sections contain a detailed analysis of the prospects for the future expansion of the four remaining items.

### 1. Projection of re-exports

#### (a) Quantum.

Re-exports of goods from the fiscal territory of Panama remained a stationary throughout the post-war period, fluctuating between 2.3 million and 2.9 million balboas (see table B-42). The only exceptions were the years 1945 and 1946, in which re-exports were abnormally low because there were no stocks in the country permiting a larger volume, and the years 1948 and 1952, in which the normal figures more than doubled.

Analysis of the factors determining re-exports is difficult because of the extreme variety of the items re-exported and the wide geographical range of their destinations. The main tariff headings under which these re-exports fall are unprocessed raw materials and manufactured goods, and under these two headings the main sub-divisions are those covering "unspecified" products. In 1956, the re-exported items went to more than 35 countries, not one of them representing, alone, a fifth of the total.

In assessing the future prospects of Panama's re-export trade it must be borne in mind in addition that the Colón Free Zone began operating in 1951. Since then, re-exports of this origin have greatly expanded and it seems reasonable to suppose that the entrepôt trade formerly carried on in the fiscal territory of Panama has, so far as possible, been taken over

by the concerns operating in the Colón Free Zone. Nevertheless, Panama continues to account for certain volume of re-exports which, for various reasons the Colón Free Zone has been unable to absorb. It is worth noting, in this connexion, that a high proportion of the Free Zone exports are carried by air, and that they are mostly light products. These are probably the re-exports which have been taken over by the Free Zone, whereas the greater part of Panama's re-exports, consisting of manufactured goods, machinery and equipment and raw materials are still being shipped by sea. The volume of these re-exports was so regular during the last four years of the period under review - and indeed throughout the entire post-war period - that there is no reason to anticipate any change in the trend during the next decade. For the projection under this heading, therefore, we shall use only a hypothesis "A" based on the average figure for re-exports during the period 1953-56 (2 366 000 balboas). This figure which is virtually identical with that for 1956, is retained for 1966.

(b) Terms of trade

The nature of the transactions making up the entrepôt trade suggests that the terms of trade under this heading will certainly remain constant, since the main determinant of the unit values of re-exports is in fact the index of the unit values of imports. If the composition of the re-exports undergoes no fundamental change, and if cost and internal profit margins do not widen unduly, it can be assumed that both indices will follow a similar curve and that the terms of trade will continue at their present level of 86.1 (see table B-46).

(c) Capacity to import

The capacity to import generated by re-exports in 1966 may be deduced directly from the hypothesis given above. The relevant figure is 2 037 000 balboas, which is practically the same as that registered in 1956 (see table B-37).

2. Projection of Colón Free Zone

(a) Quantum.

The future prospects of the Colón Free Zone are exceptionally

/difficult to

difficult to estimate. First, it began operating only in 1951, and its operations expanded with the speed characteristics of any new enterprise. Whereas, for example, in the first year only two large firms settled in the Zone, by 1955 there were more than fifty owning or renting premises there. In the first two years, the value of the re-exports from the Zone was negligible; but by 1953 re-exports had reached the figure of 16.7 million balboas, fluctuating in the following years between 34 and 38 million balboas at current prices. As a result of this initial development, the gross product originating in the Colón Free Zone (at current prices) rose from insignificant figures in 1951 and 1952 to 167 000 balboas in 1953, 702 000 and 866 000 balboas in the two following years and, finally, 906 000 balboas in 1956 (see table B-13). The ratio between the value added to Panama's economy and the value of the re-exports is, as may be seen, extremely small; however, it has risen somewhat: in 1953 the figure was only 1 per cent, in 1954 it had grown to 2.1 per cent and in the following two years it rose to 2.4 per cent. Nevertheless, since the ratio is variable and since there is very little knowledge yet of how this variability expresses itself, it cannot be used as the basis for a projection.

Secondly, activities in the Colón Free Zone appear to have come to a standstill since 1954. For reasons discussed more fully in chapter I, the Colón Free Zone has not been able to take adequate advantage of the sea traffic through the Canal and has confined its activities in large measure to light goods carried by air: at least a third of the value of its re-exports is accounted for by air shipments.[33/] Such re-exports are subject to the natural limitation imposed by the size of the markets, and in addition they consist precisely of the type of goods which create a proportionately smaller value added to the country's economy.

Even if we assume that the difficulties resulting from the lack of a separate port or dock will be overcome, there are various indications that this is an activity which will probably undergo slow growth over a longer period. The idea of the Free Zone is that it could be a centre for the

33/ Joaquín F. Franco Jr., La Zona Libre de Colón, Panama, 1958, pp.35 and 48. The proportion for re-exports abroad must be much higher, since air transport is not used for re-exports to Panama or the Canal Zone or re-exports for consumption on board.

international distribution of goods: products would enter Panama in bulk quantities and after being processed or packaged would be distributed to Central or South American countries in smaller quantities. Panama has acted as a distributing centre of this kind in the past, but its functions in this respect have been dwindling - for the following reasons, among others: (a) national markets in Latin America have been expanding; (b) the main ports of the countries concerned have been extended and improved; (c) the Latin American countries have been industrializing their economies, substituting their imports of manufactured goods and limiting their imports of consumer goods; and (d) many of these countries have developed their own merchant fleets. All these tendencies will tend to become more marked in the future, and the importance of a goods distribution centre in Panama will accordingly decline.[34] In addition to the above, there is the high cost of trans-shipment of maritime cargoes in relation to long-distance freight charges, which makes any fragmentation of such charges anti-economic.

Again, the long-term trend in international trade itself cannot be considered sufficiently dynamic. According to a Panama Canal Company projection, the number of ships passing through the Canal annually will increase at a rate of 2.2 per cent per annum over the next decade. Since ships are expected to increase in size, the volume of cargo passing through the Canal is projected on the basis of a 3.7 per cent increase per year.[35] If - for lack of any other objective criterion - we take this projection as an indication of the future trend of activities in the Colón Free Zone, we obtain for the next decade an increase of about 44 per cent. But this is a rather optimistic hypothesis, since part of the re-exports from the Colón Free Zone are destined to the Canal Zone, and this market - as we shall see later - is decidedly stationary. Another portion of the re-exports in question goes to supply Panama's economy; but since Panama

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34/ It is possible that Panama's participation in plans for the economic integration of Latin America and a regional market may check these tendencies.

35/ See below section 3.a(iii); projection of expenditures of foreign visitors (ships' crews).

/will have

will have to protect its domestic market in order to encourage import substitution and the development of domestic production, these imports too will probably increase at a slower rate than that of international trade. It is probable that only sales to aircraft in transit will increase with any greater rapidity; but the volume of such sales represents only a small fraction of the total volume of activities in the Free Zone.

If these activities expand by no more than 50 per cent in ten years their contribution to Panama's economy will probably increase by still less. Panama's main earnings from this source naturally derive from the wages paid to Panamanian workers and employees. Unless manufacturing activities are developed in the Zone or - as is not the case at present - goods of great weight and volume are handled, the number of workers also, will increase to a smaller extent than the volume of activities in the Zone, which will certainly not escape the universal trend towards greater productivity per worker. And there are also limitations to the development of manufacturing concerns. Since these would not be able to base their production on domestic raw materials - which are extremely limited and will be used primarily for the development of domestic industry - they would undoubtedly have to confine their operations to light manufactures and would employ only a small proportion of the country's unskilled labour force.

The foregoing analysis does not permit a quantitative projection of the future prospects of the Free Zone; nor is there available any other information which would help to make such a projection possible. There is nothing to justify a prediction that the coming decade will see an increase in the activities of the Zone to more than double the present figure, nor can it be expected that the Colón Free Zone's small contribution to Panama's economy - as regards both the gross product and the volume of exports - will rise by 1966 to double the 1956 figures. Nevertheless, in order to take into account the change in the volume of activities in the Zone which would result from broadening its operations to include sea-borne cargo, we shall adopt for hypothesis "B" a figure double that of the quantum reached in 1956, namely, 2.1 million balboas in 1966. For hypothesis "A" we shall assume a 50 per cent increase, making a quantum of 1.5 million balboas in 1966.

/(b) Terms

(b) Terms of Trade

The terms of trade for the Colón Free Zone have been obtained by comparing the index of internal prices (see appendix B, section A.2.e (ix))with that of the unit values of imports. As has already been indicated - and we will stress the point again later - the general level of prices in Panama is a function of this import prices index, and both depend on the evolution of prices in the United States. The terms of trade of the Colón Free Zone will probably remain constant, therefore, during the next ten years. In adopting this assumption for the projection we are simply predicting a continuance of the trend which began with the establishment of the Colón Free Zone. The index of the terms of trade of the Free Zone in 1956, i.e. 94.0 (1950 = 100), will be maintained for the year 1966 (see table B-46).

(c) Capacity to import

Since the factors determining capacity to import are the quantum of exports and the index of the unit value of imports, and the latter will remain constant between 1956 and 1966, the capacity to import will in 1966, like the quantum, be double the 1956 figure (see table B-37). The capacity to import of the Colón Free Zone will thus be 2.0 million balboas at the end of the next decade.

3. Projection of expenditures of foreign visitors

(a) Quantum

In the years immediately following the end of the Second World War, the expenditures which tourists and other visitors and transients contributed to Panama's external demand fell off sharply. During the following period, on the other hand, almost exactly the reverse happened. Between 1945 and 1948 contributions to Panama's economy from this source fell from 17.4 million to 5.4 million balboas, a contraction of 70 per cent in three years (see table B-44). In the subsequent post-war years these expenditures increased consistently and fairly rapidly. By 1956 they had reached a figure of 9.6 million balboas - nearly double the lower figure given above - but they were still a long way behind the exceptional levels resulting from the war boom.

/These marked

These marked changes in the level and trend of expenditures in Panama by foreign visitors of all kinds have to a large extent been the result of substantial alterations in the proportions of the different categories of visitors. During the war, but also during the early post-war years, the great bulk of the foreign expenditures coming under this heading resulted from the very large increase in the numbers of military personnel and persons connected with the armed forces - crews or naval vessels in particular - passing through Panama. Since then, however, three categories of non-military visitors have formed the main source of these earnings: "tourists", "officials" and "ships' crews". During the past decade these three groups have consistently accounted for about 80 per cent of the total of expenditures by foreign visitors, in sharp contrast to the situation in 1945, when their share was barely 40 per cent of the total (see table III-11).

(i) Tourists. Since the end of the war the number of tourists visiting Panama has been increasing substantially and uninterruptedly. This rising trend should continue over the coming decade, very possibly at a higher rate than that of the recent past. The future should also see an increase in spending per tourist, resulting both from longer visits and from higher daily expenditures. In order to estimate future trends in the numbers of tourists who will visit Panama and in spending per tourist, the following assumptions have been made.

In the first place, from 1950 to 1956 the number of tourists visiting Panama increased steadily, from 16 300 to 25 700 per year. This is equal to a cumulative annual rate of 8 per cent. There are at least four reasons for expecting this rate of increase to be maintained or even accentuated in the future: (a) the Panama Government's decision to carry out a programme for the promotion of tourism, by expanding existing tourist facilities and creating new ones and by launching a more intensive programme of advertising and public relations abroad[36]; (b) the great development in international communications, especially by air but also

36/ See, for instance, the "Plan de Turismo" published in: Revista de la Cámara de Comercio de Panama, July 1958, p. 15.

Table III-11

PANAMA: EXPENDITURES OF FOREIGN VISITORS; TOTAL, AND BY PRINCIPAL CATEGORIES, 1956

| Year | Total expenditures (thousands of balboas at 1950 prices) | Tourists | Officials | Ship's crews | Three main categories combined |
|---|---|---|---|---|---|
| | | (Percentages of total expenditures) | | | |
| 1945 | 17 440 | 3.1 | 5.5 | 32.0 | 40.6 |
| 1946 | 15 657 | 4.5 | 7.4 | 31.0 | 42.9 |
| 1947 | 6 239 | 15.6 | 24.7 | 37.1 | 77.4 |
| 1948 | 5 425 | 17.0 | 24.0 | 41.3 | 82.3 |
| 1949 | 5 788 | 18.2 | 24.6 | 33.0 | 75.8 |
| 1950 | 5 832 | 34.1 | 15.1 | 33.3 | 82.5 |
| 1951 | 5 765 | 38.8 | 17.6 | 29.5 | 85.9 |
| 1952 | 7 225 | 36.5 | 16.5 | 29.3 | 82.3 |
| 1953 | 7 113 | 31.3 | 18.5 | 32.0 | 81.8 |
| 1954 | 8 243 | 34.8 | 19.3 | 24.9 | 79.0 |
| 1955 | 7 489 | 40.1 | 20.3 | 24.4 | 84.8 |
| 1956 | 9 552 | 32.8 | 22.7 | 27.5 | 83.0 |

Source: See table B-44.

/by sea;

by sea; (c) the opening of the Inter-American Highway to normal and uninterrupted traffic from the United States to Panama, which it is hoped will take place in or about 1960; and (d) the increase which will undoubtedly take place in the future both in disposable personal income and in the proportion of this income which will be used for touring in the countries which are the main sources of Panama's tourist traffic.

These circumstances, and the fact that the number of tourists at present visiting Panama is still very small, should permit the maintenance of the rate of increase registered in the recent past - 8 per cent per year, the figure which will be used in the present projection as hypothesis "A". But if we assume that the four factors mentioned above - and especially Panama's projected development programme - will succedd in stimulating tourist traffic towards Panama, it may be that the rate of growth of this activity will increase markedly in the coming decade. It is not easy to set a figure to this upper limit, that of hypothesis "B", since much depends on the intensity - and the success - of the Government-sponsored tourist development programme. However, in order to get some quantitative idea of this possibility - however approximate - we may note the results of the development of tourism in an area comparable with Panama which has made a similar effort to promote tourism. United States statistics of tourists visiting Central America and the Caribbean indicate that the number of tourists travelling to this area between 1950 and 1956 increased at an annual rate of about 12 per cent.[37/] It seems reasonable to assume that this rate of increase in tourism could be achieved in Panama during the coming decade, and this figure will therefore be used in this projection for hypothesis "B". Given projection "A" (8 per cent per annum) and projection "B" (12 per cent per annum) and the number of tourist visiting Panama in 1956 (25 700), we obtain a projected total for 1966 of 55 500 tourists in the first hypothesis and 79 900 in the second.

Let us now consider past developments and possible future trends as regards spending per tourist. Between 1950 and 1956 the annual expenditure per tourist was estimated at about 122 balboas. Over the next ten years

37/ See: U.S. Department of Commerce, Survey of International Travel, 1956; and U.S. Participation in International Travel, 1957.

/it is

it is logical to expect these expenditures to rise, either through an increase in lengths of stay in Panama or through an increase in expenditures per unit of time. In any event, the main determining factor is the increase in the disposable income of the tourists. In order to attach a figure to the prospects for this phenomenon in the future, we may proceed on the basis of the development of disposable per capita income in the United States, since a large proportion of Panama's tourists come from that country. It is generally accepted that per capita income in the United States will over the long term increase at a rate of approximately 2.0 per cent per year. It has, moreover, become clear in the past - and the tendency is bound to continue in the future - that an increasing proportion of this income is being devoted to travel abroad. If Panama succeeded in sharing this future increase in tourist demand it is very likely that expenditures per tourist within the country would also increase, at rates which would probably fluctuate between 2.0 and 3.0 per cent per year. It is interesting in this connexion to note that between 1950 and 1956 expenditures per tourist in the area comparable with Panama referred to above rose from 189 dollars to 212 dollars annually, a rate of increase of some 2.0 per cent per year. This rate of increase in expenditures per tourist could, then, be used in projection "A".

In order to induce tourists to prolong their stay and to increase their outlay per unit of time in a proportion higher than that of the increase in disposable income, Panama will have to offer the necessary incentives, since it will be competing with other tourist areas to secure this additional expenditure. Consequently, projection "B" - for which a rate of increase of 3.0 per cent per annum will be adopted - assumes a deliberate and intensive effort on Panama's part to induce visitors to prolong their stay and to increase their outlay per unit of time.

If we combine the projections relating to the number of tourists visiting Panama in the future and those relating to expenditures per tourist-stay, we obtain in projection "A" a total expenditure in 1966 of 8.3 million balboas and in projection "B" a total of 13.1 million balboas. Since income under these heads amounted in 1956 to scarcely 3.1 million balboas, these projections represent increases of 164.7 per cent in the

first case and 317.7 per cent in the second. These figures may appear unduly high in the light of the somewhat pessimistic predictions for almost all other exports of goods and services. It should, however, be borne in mind that this is one of the most dynamic items in international trade in the present period, and that there is no reason why Panama should be excluded from its benefits; indeed, the country's privileged geographical position would suggest the contrary. In fact, projection "A" is simply a continuation of the tendency prevailing in the present decade as regards the number of tourists, an increase of approximately 21.9 per cent in expenditures per tourist being anticipated in addition.

(ii) Officials. Visitors to Panama in the category of "officials" include diplomatic personnel and other persons on official missions from their Governments or from international organizations. During the period 1945-55 the number of official visitors was always between 1 300 and 2 400 per year, fluctuating by some 500 about the figure 2 000, the average for the post-war years. The year 1956, in which the number rose to 3 300, was clearly an exception, due to the fact that a special conference of Presidents of American Republics was held that year in Panama.

It is extremely difficult to make a projection of the number of official visitors who will come to Panama in the future owing to the fact that - these being persons whose reasons for travelling are extremely varied - it is impossible to find any functional relationship between this group of visitors and any other more or less predictable variable. Nevertheless, it is worth noting that the average annual number of official visitors increased during the twelve years of the period. Whereas in the first half of the period the annual average was 1 800 persons, in the second half the figure rose to 2 200, which suggests that the long-term trend will probably continue to be a rising one. For lack of other criteria on which to base a projection, we shall accept the annual average for the period under review, that is to say 2 000, as our projection "A" and double that figure, that is 4 000, as our hypothesis "B".

During the later years, expenditures per person for this category of official visitors amounted to 658 balboas. This average may increase in the future to at least the extent indicated in the case of tourists.

/However, since

However, since the personal incomes of official visitors are probably a fair amount higher absolutely than those of tourists, and since this would permit them a greater degree of flexibility in spending on the kinds of goods and services which can be obtained in Panama, it would perhaps be more reasonable to assume that the expenditures of official travellers will increase by annual rates of not less than 3 per cent and not more than 5 per cent. Taking these two assumptions as hypothesis "A" and hypothesis "B" respectively, we conclude that each official visitor to Panama in 1966 will spend the sum of 884 balboas in the first case and 1 072 balboas in the second.

In order to obtain the figure for the total expenditure of this category of visitors in 1966, we must multiply the numbers of official travellers by their per capita expenditures under the two hypothesis respectively. Taking as our starting-point a total expenditure of 1.5 million balboas in 1955 (it will be remembered that 1956 was an entirely abnormal year), we obtain under hypothesis "A" a figure of 1.8 million balboas and under hypothesis "B" a figure of 4.3 million balboas in 1966.

(iii) Ship's crews. The number of members of ship's crews disembarking temporarily in the Isthmus of Panama was extremely high in 1945, but declined considerably during the years immediately following. In the year in which the Second World War ended the number of such visitors was more than half a million, but by 1947 it had fallen to half that figure. In the following decade a stationary level of about 210 000 persons per year was reached, with wide fluctuations about that average. These were due in general to factors not connected with the normal Panama Canal traffic, in particular, the Korean war and the temporary closure of the Suez Canal.[38]

According to the projections of future traffic through the Panama Canal made for the Panama Canal Company by the Stanford Research Institute, the number of passages through the Canal will increase by a cumulative rate of 2.2 per cent per year during the coming decade.[39] But this increase in traffic will probably be accompanied by an increase in

38/ See: Panama Canal Company, Annual Report of Board of Directors to Stockholder, 1957, pp. 5 and 12.

39/ Ibid., p. 12.

/the size

the size of ships using this inter-oceanic route. Consequently, the total volume of freight carried through the Canal might rather increase at an annual rate of 3.7 per cent.[40/] The increase in the number of members of ship's crews passing through the Panama Canal obviously depends on the number of ships using it, but the size of the ships also affects the issue. For this projection, then, we may accept the projections made regarding the future growth of ship traffic through the Panama Canal and of freight carried by such ships - the first, 2.2 per cent per year and the second 3.7 per cent per year - as constituting the upper and lower limits of the possibilities for the coming decade. In so far as an increase in the average size of ships will call for a directly proportional increase in the size of crews, the number of members of ship's crews disembarking in Panama will probably increase at a rate approximating closely to 3.7 per cent per year. But if we accept this hypothesis for the projection we shall undoubtedly be making an over-optimistic assumption.

It would appear reasonable to expect that in the larger and more modern ships of the future, technical innovations will be introduced which will permit a reduction in the size of crews; but it must also be remembered that over a period of ten years not all the ships passing through the Canal will have been replaced by new ones. Thus, the rate of increase in the number of members of ship's crews who will visit Panama in the future should fall somewhere between the last two projections mentioned, possibly averaging about 3 per cent per annum. On this hypothesis - and we shall take only one in this case - the number of crew members will increase from 263 000 in 1956 to 353 000 in 1966.

In recent years, the expenditures per person in Panama of members of ship's crews have been barely 10 balboas per year, owing to the extreme shortness of their stay on shore. The extent of such expenditures in the future will depend on the wages and salaries of the ship's crews and on the length of time they spend ashore. Some improvement can be expected in both factors, resulting from the higher wages, of skilled crew members on the new ships and from the fact that the greater cargo capacity of these

40/ Panama Canal Company, Annual Report of Board of Directors to Stockholder, 1958, p.6.

/ships may

ships may necessitate a slightly longer stay of the crew members on shore. For the purpose simply of illustrating the phenomena which may possibly occur in the future, we shall assume in this case that real expenditure per crew member will increase by 1 per cent per year under hypothesis "A" and by 2 per cent per year under hypothesis "B", representing total increases for the coming decade of 11 and 22 per cent respectively.

Bearing in mind that from the previous projection of the number of members of ship's crews who will visit Panama in 1966, we obtained a figure of 353 000 persons per year, hypothesis "A" on expenditure per crew member will give us a total expenditure of 3.9 million balboas while hypothesis "B" will give a total of 4.2 million balboas.

(iv) Transit through Panama, (a). This category covers travellers in transit who enter the Republic officially but do not remain in it for more than two days. Between 1950 and 1956 the number of passengers in transit through Panama followed a curve virtually identical with that for tourists. It may be expected that this relationship will remain constant during the coming decade and that this category of visitors will show an increase similar to that for tourists: 8 per cent per year under hypothesis "A" and 12 per cent per year under hypothesis "B".

Expenditures per person may also increase at a rate similar to that assumed in the two hypotheses relating to tourists, especially in view of the fact that the present average expenditure is rather low - 14 balboas per person. If, then, we adopt for this group of visitors the assumptions made with respect to tourists, total expenditure should increase from 0.3 million balboas in 1956 to 0.9 million balboas under hypothesis "A" and 1.4 million balboas under hypothesis "B" in 1966.

(v) Transit through Panama, (b). This category covers travellers in transit who spend a short time at one of Panama's terminals - in particular Tocumen airport - without officially entering the country. Between 1950 and 1956 the cumulative annual rate of increase in the number of such visitors was identical with that registered for tourists to Panama, and it would therefore seem reasonable to assume that this similarity will persist and the two categories grow at the same rate.

The expenditure per person of such visitors has been estimated at the

/virtually nominal

virtually nominal figure of one balboa. For the purposes of this projection we shall assume that this figure will double in the next ten years. Accordingly, by 1966 the total expenditures of this category of visitors will reach 0.2 million balboas under hypothesis "A" and 0.7 million balboas under hypothesis "B".

(vi) Businessmen. It is as difficult to estimate the number of persons in this category who will visit Panama in the future as the number of official visitors, since the purposes and objectives of these visits are equally varied. It may however be noted that since 1945 the average for this group has been 2 700 persons, with marked annual fluctuations. Bearing in mind that in the last few years the number of such travellers has been maintained at about this average we may assume, for this purpose of hypothesis "A", that during the coming decade the figure will reach an average of 3 500 persons, an increase of 30 per cent compared with the average for the previous period. Under hypothesis "B", on the other hand, the number of visitors in this category should substantially increase, since the greater development of the country in general, and of its foreign trade in particular, should attract foreign businessmen to Panama. There is of course no objective basis for a projection of the number of visitors in this category, and we shall therefore arbitrarily assume that it will reach a figure of 5 000 (hypothesis "B").

Expenditures per person in this category are at present some 143 balboas. If we assume that personal incomes will probably follow a trend similar to that assumed for official visitors, we can base hypotheses "A" and "B" on future rates of increase in expenditures per person of 3 per cent and 5 per cent per year respectively. In accordance with these assumptions, expenditures per person should increase from 143 balboas in 1956 to 192 balboas in 1966 under hypothesis "A" and to 233 balboas in 1966 under hypothesis "B". If we combine these projections with the relevant hypotheses on the number of business visitors we reach a total expenditure in 1966 of 0.7 million balboas in the first case and 1.2 million balboas in the second.

(vii) Air crews. Since a considerable proportion of Panama's tourists and transients arrive by air, we may assume that the numbers of

/air crews

air crews will increase in the future in a degree similar to that of the increase in those categories. We shall therefore adopt rates of increase of 8 per cent per year for hypothesis "A" and 12 per cent per year for hypothesis "B".

Since there are no better data available, proceeding on the assumptions made concerning expenditures per person for the other categories of visitors, we shall assume an increase of 3 per cent per year under hypothesis "A" and 5 per cent per year under hypothesis "B". This would make the total expenditures of air crews in 1966 about 0.2 million balboas in the first case, and 0.3 million balboas in the second.

(viii) Crews of naval vessels. In 1945 and 1946 the number of visitors in this category was more than half a million, with expenditures totalling over with million balboas. From 1947 onwards these figures shrank to almost nil. The number of members of crews of naval vessels fluctuated between a maximum of 41 000 persons and a minimum of 6 000; in the last years of the period it was generally below 20 000. It is assumed in this case that the number of such visitors will continue at about 15 000 persons annually under hypothesis "A" and 30 000 persons under hypothesis "B". As regards expenditures per person in this category of visitors, we shall adopt the same assumptions as were made for the projection for ship's crews, that is to say, annual increases of 1 per cent and 2 per cent respectively under the two hypotheses. On the basis of the foregoing assumptions, total expenditures for this category of visitors in 1966 should be about 0.3 million balboas under hypothesis "A" and 0.5 million balboas under hypothesis "B".

(ix) Unspecified. As this category of visitors is very difficult to explain as a function of any other known variable, owing to the variety of indeterminate elements involved, and as, in addition, the statistical information on the subject dates only from 1953, we shall use the upper and lower limits of expenditures under this heading in the past to establish the two hypotheses for the projection. Accordingly, we shall assume a level of 0.4 million balboas in 1966 under hypothesis "A" and of 0.7 million balboas under hypothesis "B".

(x) Summary of quantum projection. The quantum of expenditures of

foreign visitors in 1956 was 9.6 million balboas, the annual average increase for the period 1950 - 56 being 8.6 per cent. In accordance with the detailed projections of future expenditures of foreign visitors given in this section, hypothesis "A" would give a quantum of 16.5 million balboas and hypothesis "B" a total of 26.4 million balboas in 1966 (see table III-12). In the first case the annual rate of increase of the projection is 5.6 per cent, which is substantially below the rate of 8.6 per cent recorded during the six years 1950-1956.

However, this does not mean that under hypothesis "A" we are projecting a lower rate of increase in such expenditures over the coming decade than that which was experienced between 1950 and 1956. The year 1956 is an extremely abnormal one to take as our basis of comparison, expenditures of foreign visitors having increased greatly that year (by 27.5 per cent over the previous year), partly as a result of the Conference of Presidents, which led to a substantial rise under the head of expenditures of official visitors, and partly because of the temporary closure of the Suez Canal, which caused an exceptional increase in traffic through the Panama Canal and consequently in expenditures of ship's crews. If the comparison of expenditures of foreign visitors is made on the basis of the years 1950 and 1955, the rate of increase in fact reduces itself to 5.1 per cent per year, which is somewhat below the rate projected in hypothesis "A". Hypothesis "B" - which assumes a determined effort on the part of Panama to increase the numbers of tourists and other types of visitors - has been projected with a rate of growth of 10.7 per cent per year, which would mean an increase in the expenditures of visitors to more than double.

(b) Terms of trade

The terms of trade for expenditures of foreign visitors have in the past been extremely stable (table B-46). During eleven years of the period - leaving aside the year 1945 - the index fluctuated very slightly, between a maximum of 104.5 and a minimum of 95.7, that is to say, with a margin of fluctuation of no more than 9 per cent in relation to the lower figure. In reality this was inevitable, since the level of prices in

/Table III-12

Table III-12

PANAMA: PROJECTION OF EXPENDITURES OF FOREIGN VISITORS

| Category of visitors | 1956 Number of visitors (thousands) | 1956 Annual expenditure per visitor (balboas at 1950 prices) | 1956 Total expenditure (thousands of balboas at 1950 prices) | Hypothesis | 1966 Number of visitors (thousands) | 1966 Annual expenditure per visitor (balboas at 1950 prices) | 1966 Total expenditure (thousands of balboas at 1950 prices) |
|---|---|---|---|---|---|---|---|
| Transit through Panama (a) | 23.7 | 14 | 335 | A | 51.2 | 17 | 870 |
| | | | | B | 73.7 | 19 | 1 400 |
| Transit through Panama (b) | 112.8 | 1 | 113 | A | 243.5 | 1 | 244 |
| | | | | B | 350.8 | 2 | 700 |
| Tourists | 25.7 | 122 | 3 136 | A | 55.5 | 149 | 8 270 |
| | | | | B | 79.9 | 164 | 13 104 |
| Businessmen | 2.8 | 143 | 401 | A | 3.5 | 192 | 672 |
| | | | | B | 5.0 | 233 | 1 165 |
| Officials | 3.3 | 658 | 2 170 | A | 2.0 | 884 | 1 768 |
| | | | | B | 4.0 | 1 072 | 4 288 |
| Air crews | 11.9 | 5 | 60 | A | 25.7 | 6 | 155 |
| | | | | B | 37.0 | 7 | 260 |
| Ship's crews | 263.0 | 10 | 2 630 | A | 353.0 | 11 | 3 883 |
| | | | | B | 353.0 | 12 | 4 236 |
| Naval crews | 13.6 | 15 | 204 | A | 15.0 | 17 | 255 |
| | | | | B | 30.0 | 18 | 540 |
| Unspecified | 2.5 | 202 | 504 | A | 2.1 | - | 400 |
| | | | | B | 3.3 | - | 700 |
| Total | 459.3 | - | 9 553 | A | 751.5 | | 16 517 |
| | | | | B | 936.7 | | 26 393 |

Source: See text and table B-44.

Panama - which determines the prices of the goods and services purchased by the foreign visitors - depends in turn, to a very considerable extent, on the index of the unit values of imports. This characteristic of Panama's economy will very probably persist over the coming decade, for even if its industrial and agricultural sectors develop to a remarkable extent, it will still remain a very open economy and closely linked with that of the United States, particularly from the monetary point of view. It is entirely reasonable to assume, therefore, that the terms of trade for expenditures of foreign visitors during the coming decade will be maintained at the level reached in 1956, i.e. an index of 97.8 with base 1950 = 100.

(c) Capacity to import

In 1956 capacity to import generated by expenditures of foreign visitors reached a figure of 9.3 million balboas. On the basis of the quantum projections made above and of the assumption that the terms of trade will remain constant at the level reached in 1956, capacity to import generated by foreign visitors should in 1966 reach the figures of 16.1 million balboas under hypothesis "A" and 25.8 million balboas under hypothesis "B". Since it is assumed that the terms of trade will remain constant, the projected increases in the capacity to import in 1966 as compared with 1956 are identical with the projected increases in the quantum.

4. Projection of expenditures of foreign diplomats

(a) Quantum

Over the twelve years 1945-56 the volume of expenditures of diplomats resident in Panama remained practically stationary. The average for the period as a whole was 1.2 million balboas annually, the upper and lower limits being 1.7 million balboas in 1945 and 0.9 million balboas in 1951 (see table B-42). This stationary trend will very possibly persist during the coming decade. At any rate, there is no reason to expect any change in the number of resident diplomats and the duration of their stay in Panama. On the other hand, their expenditures may possibly increase with the rise in their personal incomes. In order to allow for this factor, we shall assume that these expenditures will

/increase at

increase at an annual rate of 3 per cent, representing a rise of 34.4 per cent between 1956 and 1966. In other words, total expenditures would amount to 1.9 million balboas in 1966 as compared with 1.4 million in 1956.

(b) Terms of trade

As in the case of foreign visitors - and perhaps with even more reason - it is assumed that the terms of trade for expenditures of diplomats will in the future remain constant. This has been the case in the past, at least since 1949; and as we have assumed that Panama's price level will in the future follow a course very similar to that of the unit value of imports, we shall adopt for the purposes of the projection the figure of the index in 1956, that is, 94.4.

(c) Capacity to import

On the basis of the foregoing assumptions, the capacity to import generated by foreign diplomats should increase from 1.3 million balboas in 1956 to 1.8 million balboas in 1966.

5. Summary of projections of traffic and tourism

In 1956 the quantum of transactions relating to transit and tourism amounted to 14.3 million balboas. On the basis of the projections made in this section, the relevant values for 1966 should be 22.3 million balboas under hypothesis "A" and 32.8 million balboas under hypothesis "B". This means in the first case, an increase of 56 per cent and in the second an increase by 129.4 per cent to more than double the previous figure (see table III-13).

The most important item in this sector of external demand is expenditures of foreign visitors, which in the base year accounted for more than two thirds of the total. Under both hypothesis "A" and hypothesis "B" this share will rise still higher - in the first case to three quarters and in the second to 80 per cent. The great increase predicted for this type of expenditure is due primarily to the marked expansion expected in tourist activity in Panama. Tourists have in the past formed the most important category of foreign visitors, accounting for between 30 and 40 per cent of the corresponding expenditures. With the great increases

/Table III-13

Table III-13

PANAMA: PROJECTION OF QUANTUM OF TRANSIT TRADE AND TOURISM

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | |
|---|---|---|---|
| | | Hypothesis A | Hypothesis B |
| Total | 14.3 | 22.3 | 32.8 |
| e-exports | 2.4 | 2.4 | 2.4 |
| olon free zone | 1.0 | 1.5 | 2.1 |
| xpenditures of foreign visitors | 9.6 | 16.5 | 26.4 |
| xpenditures of resident foreign diplomats | 1.4 | 1.9 | 1.9 |

ource: See text.

/expected in

expected in such expenditures during the coming decade, their share should rise to 50 per cent by 1966. The other categories of foreign visitors - especially those connected with air traffic - should also show important increases.

The other item which, although not very great in absolute terms, should show a marked increase in relative terms during the coming decade is the Colón Free Zone. For hypothesis "A" an increase of 50 per cent was projected and for hypothesis "B" a rise of 100 per cent. The share of this item in the total of transit and tourist transactions should, however, fall slightly as compared with the 7 per cent reached in 1956.

With regard to the other two items, expenditures of foreign diplomats resident in Panama should increase by barely 36 per cent over the coming decade, while re-exports should remain stationary.

In every one of the individual items studied for the purposes of the projection of transit and tourist transactions, a marked constancy was observed in the respective terms of trade indices. Taking into account the factors determining export prices in each of these cases, and the projection made of the index of unit values of imports, the hypothesis was adopted in each case that the terms of trade for transit and tourist transactions would not vary during the coming decade.

As a result of the constancy projected in the terms of trade indices, the capacity to import shows no divergence from the quantum. The same conclusions are therefore reached in either case; the figures pertaining to the capacity to import are recapitulated in table III-14.

## IV. THE PANAMA CANAL ZONE

### 1. Introduction

In chapter I the enormous importance of the Canal Zone to Panama's economy from every point of view was demonstrated. It was shown that a very large part of over-all demand originates in that sector, and that the Canal Zone accounts for a high proportion of the external demand, which is the principal dynamic factor in the economy. It was also shown that a large part of Panama's gross product derives from services of Panamanian

/Table III-14

Table III-14

PANAMA: PROJECTION OF CAPACITY TO IMPORT DERIVING FROM TRANSIT TRADE AND TOURISM

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | |
|---|---|---|---|
| | | Hypothesis A | Hypothesis B |
| ansit and tourism | 13.7 | 21.9 | 31.6 |
| -exports | 2.0 | 2.0 | 2.0 |
| lon Free Zone | 1.0 | 2.0 | 2.0 |
| penditures of foreign visitors | 9.3 | 16.1 | 25.8 |
| penditures of diplomats resident n Panama | 1.3 | 1.8 | 1.8 |

urce: See text.

labour in the Zone. Finally, from the point of view of the distribution of the active population, it should be recalled that during a boom year -1940- this was by far the most important source of employment after agriculture, and that during a depression year - 1950 - it continued to be a source of employment slightly more important than the manufacturing and electricity, gas and water sectors combined, and almost as important as the sectors of trade and services.

Moreover, the importance of these relations with the Canal Zone cannot be measured in economic terms alone. They also have an obvious and decisive influence on the technical training of Panama's labour force, on production, distribution and consumption habits and on other aspects of the Panamanian people's way of life.

This is bound to be so, for the Canal Zone is an integral part of Panamanian territory, it is located just where the greatest concentration of population is found and its activities produce a constant flow of persons, vehicles, goods and communications in both directions.

In view of the tremendous significance of the Canal Zone for Panama it will be useful to examine the relations between the two in somewaht greater detail. This will enable us to throw full light on one of the most complicated aspects of Panama's economy, and to assess the prospects of future growth deriving from activities in the Zone. As has been said, the Zone has had a decisive influence on the rate and structural characteristics of Panama's economic development in the past, and although this influence has been diminishing since the war it will undoubtedly persist in the future, even if it declines over the long term. It is therefore very important to obtain a more exact idea of the trend to be expected in the relations between the Canal Zone and Panama during the coming decade - to ascertain, that is, to what extent the Canal Zone will continue to contribute to Panama's capacity to import and thus to its external and over-all demand. There is also the question of the effect of the future development on the Zone on the employment of Panama's labour force. The answer to these questions is of primary importance for any evaluation of the country's growth prospects.

In the sections which follow there will be found a detailed analysis

of the relations between the Canal Zone and Panama and projections of their future development, based on such projections as are available and applying to the items for which they were made. For the remaining items those hypotheses will be adopted which seem the most reasonable in the light of the scanty and somewhat imprecise information available.

2. Wages received by regular employees

(a) Quantum

For this estimate the results of the projection made by the Panama Canal Company itself have been used.[41] In that projection it was assumed that the total payroll would rise by 1.3 per cent per year (13.8 per cent in 10 years) and the index of wages and salaries by 3.5 per cent per year (41.1 per cent in 10 years). From these two projections it may be deduced that employment in terms of man-hours should decline at a rate of 2.1 per cent annually (a fall of 19.1 per cent in 10 years). If it is assumed that the working day will not undergo changes in the future, it can be accepted that that reduction represents the contraction which will occur in employment in activities connected with the Panama Canal Company in the coming decade.

What this tendency means from the point of view of the employment opportunities offered by the Zone to workers and employees resident in Panama depends on the composition of the future labour force in the Zone. If the proportion of workers and employees resident in Panama to the total number of employed persons remains the same, the decline of 19.1 per cent referred to above will apply equally to the latter. If, on the other hand, the number of employees resident in Panama declines to a lesser extent than the total labour force in the Zone, the proportion of the former to the latter will increase, and the decrease in employment opportunities in the Canal Zone will be smaller than in the previous case. If the contrary occurs, the fall in employment in the Zone will be greater than 19.1 per cent.

41/ Ibid, p.12

/In the

In the latest years of the period two very interesting developments took place in this connexion. First (see table III-15), after declining slightly over a long period the proportion of employees paid on the basis of local rates levelled off at about 75.0 per cent. Secondly (table III-16) the proportion of the Zone's employees who are resident in the Zone itself fell sharply from 1953.

As regards the first development, it might have been thought that the decline in the number of persons employed at local rates compared with the number of those employed at United States rates was due to a transference of personnel from the first category to the second. Since the first category consists mainly of Panamanians, this would have been of great benefit to the country. But there is little ground for believing that this is what has in fact happened. One of the complaints Panama has made with the greatest insistence - so much so that is was expressly provided for in the last Treaty - is precisely that this process has not occurred in the past; and it has demanded that equality of opportunity shall henceforth be ensured to Panamanian citizens in the occupations which the United States Government offers in the Canal Zone.[42/] Furthermore, it should be borne in mind that this relative contraction has occurred within an absolute decline in the numbers of persons employed both at United States rates and at local rates. In these circumstances, it is most unlikely that there could at the same time have been taking place a process of replacement of United States by Panamanian workers; for the former would then have had to be displaced at a rate higher than that of the general reduction. A further reason why this could not possibly have occurred is that the Panama Canal Company has in recent years been making a very intensive effort to improve the productivity of all its varied activities, in many instances introducing the most modern, mechanized and automatic technological and administrative methods and procedures,[43/] for which purpose it has had to bring in non-Panamanian technicians and experts.

In the last four or five years, however, a remarkable degree of stability has been reached in the proportion between the two categories of

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42/ See Panama Canal Company and Canal Zone Government, Annual Report, Fiscal Year ended June 30 - 1956, pp. 34-38.

43/ Op. cit., passim, and other Annual Reports.

Table III-15

PANAMA: EMPLOYEES OF THE PANAMA CANAL COMPANY, BY TYPE OF PAY

| Year a/ | Total | Local rate | United States rate | Proportion at local rate (percentage) |
|---|---|---|---|---|
| | (Number of employees) | | | |
| 1939 | 14 757 | 11 246 | 3 511 | 76.2 |
| 1946 | 27 862 | 21 944 | 5 918 | 78.8 |
| 1947 | 24 694 | 19 276 | 5 418 | 78.1 |
| 1948 | 22 736 | 17 716 | 5 020 | 77.9 |
| 1949 | 21 338 | 16 559 | 4 779 | 77.6 |
| 1950 | 18 792 | 14 470 | 4 322 | 77.0 |
| 1051 | 18 735 | 14 519 | 4 216 | 77.5 |
| 1952 | 16 061 | 12 406 | 3 655 | 77.2 |
| 1953 | 14 292 | 11 009 | 3 283 | 77.0 |
| 1954 | 12 995 | 9 830 | 3 165 | 75.6 |
| 1955 | 12 050 | 8 985 | 3 063 | 74.6 |
| 1956 | 11 558 | 8 633 | 2 925 | 74.7 |

Source: 1939 and 1946-48: International Monetary Fund, Economic Survey of Panama, 1952, table 2. 1949-56: Panama Canal Company and Canal Zone Government, Annual Report.

a/ Up to 30 June of the year indicated.

/employees, and

employees, and it is very unlikely that this situation will change for the worse as a result of the Treaty and Memorandum recently negotiated. Nor, however, can it be expected that it will change substantially for the better - if only because in 1956 there were scarcely more than 4,000 persons employed by the Panama Canal Company at United States rates. If this number falls by 19.1 per cent, there will in 1966 be some 3,300 jobs at United States rates. For a considerable proportion of these to be filled by Panamanians, the 700 jobs no longer in existence would have to have been formerly occupied by Panamanians, and, in addition, a large number of non-Panamanians would have to be dismissed in order to make room for Panamanians. From whatever angle it is approached, this hypothesis appears improbable. On the other hand, a small increase in the proportion of Panamanians in the category of persons employed at United States rates would not significantly alter the projection of future employment in absolute terms. To sum up, then, the most that can be expected in the future is that the proportion of employees at United States rates - mainly United States citizens - to employees at local rates - preponderantly Panamanians - will remain the same.

Nor does the second development referred to - the growth in the number of employees resident in Panama - offer very encouraging prospects. As may be seen from table III-16, the number of Canal Zone employees resident in Panama was maintained during the period 1950-56 at a figure between 12,500 and 13,000, whereas the number of employees resident in the Canal Zone itself fell during the same years from 13,925 to 8,521. The decline in the number of these employees thus amounted to 5,404; but whereas between 1950 and 1952 their number was reduced by only 200, between 1952 and 1955 - only three years - there was a contraction of almost 5,000. This very sudden change in the position of this group of employees was due principally to a programme for the clearance of very old dwellings and their replacement by a sufficient number of new dwellings to provide housing facilities only for United States citizens and certain non-United States employees in important positions concerned with the maintenance and operation of the Panama Canal.[44] The construction of new dwellings for these residents

44/ Panama Canal Company, Annual Report, 1955, p. 23.

Table III-16

PANAMA: EMPLOYEES IN THE PANAMA CANAL ZONE, BY PLACE OF RESIDENCE

| Year | Total number of employees in the Zone | Resident in the Zone | Resident in Panama | Proportion of total residents in Panama (percentage) |
|---|---|---|---|---|
| | | (Thousands) | | |
| 1950 | 26.9 | 13.9 | 12.9 | 48.0 |
| 1951 | 26.2 | 13.8 | 12.4 | 47.3 |
| 1952 | 26.3 | 13.7 | 12.6 | 47.9 |
| 1953 | 25.1 | 12.2 | 12.9 | 51.4 |
| 1954 | 22.5 | 10.2 | 12.3 | 54.7 |
| 1955 | 21.7 | 8.7 | 12.9 | 59.4 |
| 1956 | 21.2 | 8.5 | 12.7 | 59.9 |

Source: Statistical and Census Department, Panama.

in the Zone was completed during the fiscal year 1956-57, and the clearance programme was to be completed by the end of 1957.[45/]

A further factor in the decline in the number of persons resident in the Canal Zone has been the decision of the Panama Canal Company to eliminate the fiscal deficit of its housing division by a policy of general and repeated increases.[46/]

The sudden migration of more than 5,000 employees - which probably means a total population of some 25,000 persons - from the Canal Zone to Panama City between 1952 and 1955 probably had a good deal to do with the growth of shanty-towns on the city's outskirts, which took place during those same years.

This migration has also meant that the number of employees resident in Panama has not contracted in recent years to the same extent as the total labour force of the Panama Canal Company. As already indicated, the number of workers and employees resident in Panama has remained practically stable at about 13,000, whereas the Company's total labour force fell from 26,850 in 1950 to 21,212 in 1956 (a reduction of 5,638 persons). If this tendency were to continue in the future, the employment of residents in Panama would probably decline at less than the rate of 2.1 per cent per year projected by the Company. But this prospect would not appear to be a very real one. As has already been said, the house clearance programme - which is the main factor in the change of residence - was to have been completed towards the end of the year 1957. The programme was intended for the benefit of employees strictly necessary for the running and maintenance of the Panama Canal and supporting operations, and of certain Panamanian employees occupying important posts.[47/] But it is only natural that

45/ Panama Canal Company, Annual Report, 1957, p. 19.

46/ Panama Canal Company, Annual Report, years 1955 p. 24 and 57, p. 19.

47/ The Panama Canal Company and the Canal Zone Government, Third Annual Report, 1954 and Fourth Annual Report, 1955, p. 22 and p. 23, respectively.

the technological disemployment projected for the future should affect these employees too. Of course, this does not mean that recently-built houses will be left unoccupied; this would be absurd. The housing programme has not meant the replacement of all old dwellings, so that as the number of residents declines, obsolete dwellings can be left empty.

It should also be borne in mind that under the 1955 Treaty and the corresponding Memorandum of Agreements, the United States will withdraw from employees who are not United States citizens and who do not reside in the Zone the privilege of using the services offered in the Zone, except those essential to health or to the execution of their tasks. 48/ This appears to indicate that housing facilities in the Canal Zone will be available only to the employees strictly necessary for the maintenance and operation of the Canal, referred to above.

The clear conclusion to be drawn from this analysis is that in projecting the quantum of services afforded to the Canal Zone by regular employees resident in Panama, the most reasonable hypothesis to adopt is that this quantum will decline, in the same degree as the Company's total labour force. We shall therefore accept the projection of a decline at a rate of 2.1 per cent per year made by the Panama Canal Company itself. But we must take as the starting point of the projection the number of employees resident in the Zone not in 1956 but in 1957, after the completion of the housing programme. Between these two years there was a reduction of some 500 in the number of persons employed at local rates, and to this must be added a decline of 2.1 per cent per year for the other nine years up to 1966. This projection would thus mean a contraction of 28.8 per cent in comparison with the number of employees resident in the Zone in 1956.

The hypothesis adopted for the projection of the number of Panamanian personnel employed by the Canal Company is assumed to be valid also for the other United States Government agencies which are a source of employment in the Zone. The projections of increase in productivity - or decline in employment - and of the future increase in wage-rates, although they

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48/ The Panama Canal Company and the Canal Zone Government, Annual Report, 1956, p. 37, Item 6.

/relate solely

relate solely to the activities of the Panama Canal Company, appear to be applicable also to activities connected with the Canal Zone Government - which is the least important employer - and, more particularly, with the operation of establishments dependent on the armed forces. In the latter case the projection of increase in productivity, is probably somewhat conservative, in view of the increase and revolutionary technological advances which have been going on in the military sphere in recent years.

(b) Terms of trade

In order to project the index of the terms of trade for services of regular Canal Zone employees, we need to obtain estimates of the wages index for such employees - this corresponding to the index of export prices - and of the index of import prices in 1966. As to the latter, it has been assumed that it will increase at an annual rate of 1.5 per cent (see section II.2.b). For the export price index corresponding to these services we have used the projection made by the Panama Canal Company itself, which foresees an annual rate of increase of 3.5 per cent in the coming decade. The terms of trade index should accordingly rise by 2.0 per cent per year during the next ten years. This means an increase of 21.9 per cent for the decade; and as the terms of trade index for this sector registered a level of 132.4 (base 1950 = 100) in 1956, the figure for 1966 should be 161.4.

(c) Capacity to import

If we combine the projections of the terms of trade and the quantum, we obtain the projection of the capacity to import. As already indicated, the terms of trade will improve by 21.9 per cent between 1956 and 1966, while the export quantum will contract by 28.8 per cent. Consequently, the capacity to import generated by regular Canal Zone employees should suffer a contraction of 13.0 per cent during the coming decade. In 1956 the value of the capacity to import under this head was 20.0 million balboas; in 1966, therefore, if the foregoing assumptions prove correct, it should be 17.4 million balboas.

/3. Sales of

3. Sales of services to Canal Zone agencies

(a) Quantum

The projection of sales of services to Canal Zone agencies presents problems similar to those to be considered later in connexion with sales of goods to these agencies.[49] As regards sales of services, nothing at all is known about what kinds of services are involved or what are their main items. It is probable, however, that these sales of services are very closely connected with what are known as "supporting operations"; and this would appear to be confirmed by the fairly close similarity in recent years between the trend of this series and that of sales of goods to Canal Zone agencies. Consequently, for the projection of this category of sales to the Canal Zone we shall adopt the same basic assumptions as were used for the projection of sales of goods, except that a projection "A" only will be made. Hypothesis "B" appears inapplicable in this case, because there are no alternative sources of supply of services and because the entire policy of the Canal Zone agencies is aimed at achieving the highest possible level of productivity through the use of the most advanced techniques. This being so, it is difficult to visualize the possibility of an increase in the volume of work or employment contracted for by the Canal Zone authorities. The quantum of sales of services to Canal Zone agencies will thus probably decline by 10 per cent during the coming decade, from 4.3 million balboas in 1956 to 3.9 million balboas in 1966.

(b) Terms of trade

The terms of trade for sales of services to Canal Zone agencies, as for sales of goods, will probably remain constant at the level reached in 1956. Taking this as the basis for the projection, we obtain a figure of 132.4 for the terms of trade for this category of sales to the Zone in 1966.

(c) Capacity to import

In accordance with the projections of the quantum and the terms of trade made in the previous paragraphs, the capacity to import deriving

49/ See section 5.

from sales or services to the Zone should amount to 5.2 million balboas in 1966. This projection means a fall of roughly 10 per cent in comparison with the level of 5.7 million balboas reached in 1956.

4. Wages received by contractors' employees

(a) Quantum

The volume of wages received by employees of Panamanian contractors who carry out works in the Canal Zone has been shrinking alarmingly. In 1945 the figure was slightly over 4.0 million balboas; this was due primarily to the high rate of construction in the Canal Zone at that time, military construction in particular (see table B-42). In succeeding years, as these construction works were completed, the number of contracts declined, as did also the volume of wages paid, which fell to its minimum of 1.9 million balboas in 1950 and 1951. In the two following years there was a certain recovery which must have been due in part to the house-building programme designed to replace the wooden dwellings built for the most part during the construction of the Panama Canal. This programme was begun in the fiscal year 1950/51, and was virtually completed during the fiscal year 1954/55.[50/] In these later years, contracting activity in the Zone again began to decline, reaching a minimum value in 1956 of 0.7 million balboas, barely a fifth or even a sixth of the volume of wages paid out at the beginning of the period.

The future trend of construction works carried out by Panamanian contractors is, as might be imagined, difficult to project. The temporary nature of such works itself makes it difficult to decide what kind of estimate should be made. Obviously, the point is not to project the precise volume of such works in 1966. As has already been indicated in the introduction to this chapter, the projection made is to be for a normal year at the end of the decade 1956-66. What is of interest, therefore, is not so much the exact figure for that year as the average annual volume of construction works carried out up to the end of the decade. This estimate is not an easy one to make, either; but there are

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50/ Panama Canal Company and Canal Zone Government, Fourth Annual Report, Fiscal Year 1955, p.23.

/certain indications

certain indications that the strong downward trend in the volume of wages received by employees of Panamanian contractors in the Canal Zone should be reversed in the near future. The marked increase in Canal traffic in recent years - 5.6 per cent per year in the last decade - and the future projection of this traffic have convinced the Panama Canal Company authorities that the Canal will soon be too small to accommodate all the ships arriving at its terminals to pass through. The Canal's traffic capacity is at present limited by two factors: firstly, the fact that only ships of a certain size can use it - a matter of great concern, in view of the rapid increase in recent years in the size of the ships passing through - and secondly, the fact that the number of ships which can be passed daily is also restricted. In order to deal with the problems likely to arise in the immediate future, the Company has drawn up a programme of improvements and extensions the cost of which is estimated at 20 million dollars, and which will increase the capacity of the Canal sufficiently to meet traffic needs during the next ten to twenty years. This programme will initiate a series of works, among which the ones of special interest - from the point of view of Panamanian contractors - are those for increasing the width and depth of the Canal at certain points (Gaillard Cut and Bend 1660) and for extension to allow two-way traffic at other places (north of the Pedro Miguel locks). These projects are to be carried out between the beginning of 1959 and the fiscal year 1961; but studies have also been begun for long-term works on the improvement of the Canal, and these works too, will probably be begun very shortly. According to the Treaty signed in 1955 it is also hoped to build a bridge across the Canal at Balboa. It is intended that work on this project too will begin in 1959; and it will take some five years to complete.[51/]

Although there is no room for undue optimism regarding the opportunities for the employment of Panamanian labour which will be offered by these operations - both because they include specialized works which cannot

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51/ Panama Canal Company, Annual Report of Board of Directors to Stockholder, 1958, pp. 7-8 and 14-15.

/be undertaken

be undertaken by local companies and because construction works in Panama are characterized by a high degree of mechanization with consequent economy in man-power there is no doubt that they will be far greater than any works carried out during the last decade - although it would be difficult to recover the level of 1945 and the immediate post-war years. For lack of more precise information than that given above, it would seem permissible to assume that at the end of the coming decade the quantum of wages paid to employees of contractors in the Canal Zone will be above the annual average of 2 million balboas registered during the period 1951-54, when the house replacement programme was in progress. On the other hand, it cannot be expected to exceed the annual average for the years 1945-47, when unusually extensive works were completed, namely, 3.5 million balboas. Given these figures as the upper and lower limits, we shall take the mean between them, 2.8 million balboas, as hypothesis "A" for the projection of the quantum of wages paid to employees of Panamanian contractors in the Canal Zone in 1966.

(b) Terms of trade

The wage-rates paid to employees of Panamanian contractors in the Canal Zone will undoubtedly follow, not those paid to regular employees in the Zone, but rather the rates prevailing in Panama. The latter will probably not diverge very far from the general price-level, which, as has already been suggested, will closely follow the trend of the unit values of imports. In this case too, therefore, we can assume that the terms of trade will in the future be maintained at the 1956 level. Thus the index of the terms of trade for wages received by contractors' employees will be maintained in 1966 at its present level of 94.4 (base 1950 = 100). This hypothesis is entirely compatible with the historic trend of the index, which has preserved a remarkable stability over the past decade.

(c) Capacity to import

On the basis of the projections given above of the quantum and the terms of trade for wages paid to employees of Canal Zone contractors, the projection of the capacity to import generated under this head in 1966 will be 2.6 million balboas. This projection represents a substantial increase by comparison with the very low level of 1956, and is in fact higher than any figure since 1947 (see table B-37).

5. Sales to Canal Zone agencies

(a) Quantum

Panama's sales of goods to Canal Zone agencies cover a wide range of products among which certain consumer goods such as meat and sugar and other miscellaneous items such as cement, forestry products, office equipment, tyres and cameras are important items.[52/] It has not been possible to obtain detailed information on the composition of the purchases made by the various Canal Zone agencies in Panama. This lack of information seriously hampers both these and the sectoral projections (see chapter IV), and is a great obstacle to the formulation and execution of economic plans in Panama.

The difficulties in the way of any projection of the future trend of Panama's sales to Canal Zone agencies are obvious. Since the exact structure of these sales is unknown, it is impossible to identify the elements or independent variables determining them, for whereas purchases of consumer goods depend on the population resident in the Zone and their incomes, purchases of building materials depend on future construction work, and purchases of office equipment and furniture on the extent of the growth of administrative activities setting aside whatever purchasing policy may be in force in each case. Furthermore, the 1955 Treaty provides for a series of changes whose effects cannot be assessed in quantitative terms. The most important is the abolition from 1957 of the privilege, previously enjoyed by Panamanian employees not resident in the Zone, of making purchases at commissaries and other commercial agencies in the Zone. Obviously, the abolition of this privilege puts an end to any sales of the products in question by Panama to the Zone, to the extent that employees were previously in the habit of buying Panamanian products there. Consequently, the absolute level of such sales should change from 1957; and this has to be allowed for in the projection.

As there is no specific information on which an objective evaluation of the prospects of such sales to the Canal Zone can be made, we have no

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52/ Panama Canal Company and Canal Zone Government, Fourth Annual Report, Fiscal Year 1955, p.27.

/alternative but

alternative but to make a rough estimate on the basis of the very indirect information available. As regards the change in the absolute value of the series we are attempting to project which may result from the Treaty, two things must be borne in mind. First, the suspension of purchases by Panamanian employees in commissaries and the suspension of the Panama Canal Company's sales to ships passing through the Canal will ultimately mean a decline in Panama's sales, of consumer goods in particular, to the Zone. Secondly, the Treaty requires the Canal Zone to end the manufacture of certain consumer and other goods which have up to now been produced in the Zone. Thus, in the fiscal years 1955/56 and 1956/57 the following went out of operation: a soda-water bottling plant, the Industrial Laboratory, the slaughterhouse and a sausage-making factory; and as a result, the volume of purchases in the Colón Free Zone, other local supply centres and other places increased.[53/] Again, in the fiscal year 1957/58 the Industrial Division's gas-works were closed, and an agreement was negotiated with a Panamanian concern for the supply of oxygen, hydrogen and acetylene.[54/]

However, the larger sales to the Zone under the above heads and the smaller sales due to the suspension of purchases in commissaries represent fairly small amounts in comparison with the total volume of such sales in 1956, when the Panama Canal Company was already preparing for the radically different conditions which would result from the fulfilment of its obligations under the Treaty.[55/] Consequently, and for lack of better information, it will be assumed in this projection that the increases and decreases in the sales of goods to the Canal Zone which will result from the fulfilment of various provisions of the Treaty will not have any appreciable net effect on the absolute sales reached in 1956.

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53/ Panama Canal Company and Canal Zone Government; Annual Report, Fiscal Year ended 1956, p. 20 and Fiscal Year ended 1957, p. 20.

54/ Panama Canal Company, Annual Report of Board of Directors to Stockholder, 1958, p.11

55/ Panama Canal Company and Canal Zone Government, Annual Report, Fiscal Year ended 1956, p.20

/The projection

The projection of the volume of these sales during the coming decade will therefore depend predominantly on the number of persons resident in the Zone and their incomes, the volume of construction work executed and the amount of administrative and other work carried on in connexion with the day-to-day life of the Zone's population. This complex of factors determining the volume of sales to agencies in the Zone is unusually difficult to project, since the factors in question are all likely to develop very differently in the future, and their relative importance in the evolution of the Zone's purchases is unknown. As will be seen below, whereas the population of the Zone will probably decline to some 40,000 inhabitants by 1966, real per capita income is likely to grow during the coming decade at a rate of about 2.0 per cent per year. On the other hand, the future volume of construction in the Zone is not known, and it is difficult to predict what policy will be adopted in supplies for such construction, i.e. whether the Zone will purchase its inputs in Panama or from United States or other sources of supply.

Nor can the historical trend in the evolution of these purchases serve as a guide for this projection, for although the total figure remained relatively stationary at about 4 million balboas throughout the period 1945-54, there was an absolute change in 1955 and 1956, when the level of sales rose to 5 million and 9 million balboas respectively, doubling the former figure (see table B-42). It would appear, and it has already been suggested, that this was connected with the preparations being made for the new conditions resulting from the Treaty signed in 1955. The maximum level in this change in conditions appears to have been reached in 1956. According to a publication of the Panama Canal Company,[56/] the Company's "supporting operations" reached the peak of their curve in the fiscal year 1955/56, fell vertically to their lowest level in the fiscal year 1957/58 and have since been rising again slightly. According to the Company's projection, the level of supporting operations in 1965/66 resulting from the long- and short-term effects of the Treaty, should be 10 per cent below the level

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56/ Panama Canal Company, Annual Report of the Board of Directors to Stockholder, p.12, see in the graph the curve labelled "supporting".

/reached in

reached in 1956/57. But it is these supporting operations which include employees, housing, service centres, commissaries, rail, road and sea transport, electric power systems, communications and drinking water, stores, printing, engineering and construction projects and so on, which together determine Panama's sales to the Zone agencies.

It would seem reasonable to use this projection of the Company's to estimate future sales of goods to Canal Zone agencies. The projection will start with the figure for the year 1956, although the Company's projection is based on the fiscal year 1956/57. According to the graph already referred to, supporting activities reached their peak in the fiscal year 1955/56 and declined rapidly in the two subsequent years, so that the mid-year change results in a slightly over-valued figure for the base of the projection. Starting, then, with a figure of 8.8 million balboas in 1956, projection "A" - which is perhaps slightly optimistic because of the change in the base year - gives a quantum of sales to the Zone in 1966 of 7.9 million balboas. This projection is based on the assumption that the distribution of the inputs of the Zone's supporting operations as between purchases in Panama and purchases from other sources of supply will remain the same as in 1956.

It is likely, however that if conditions of supply in Panama permit and if the relevant provisions of the latest Treaty are fulfilled, this distribution may incline in Panama's favour. As indicated in a recent report, Panama could in the near future supply the Panama Canal Company with its daily needs as regards bread, coffee, meat and laundry and dry-cleaning services, and in the middle future with its milk and ice-cream requirements. In addition, since about 70 per cent of the goods sold in the Zone's commissaries are imported from the United States, there is undoubtedly a wide margin for the substitution of these imports by Panamanian products.[57] Somewhat similar considerations apply, though to a lesser extent, as regards inputs of materials, machinery, tools and other items required for the Company's supporting operations.

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57/ International Bank for Reconstruction and Development, Industrial Development in Panama, (Walter J. Armstrong), Washington, D.C., May 1957, pp.9 and 10.

/It is

It is difficult in the absence of information on the composition of the Zone's imports to assess the possibilities for Panama on this market, but there is no doubt that such possibilities exist. Accordingly, a projection "B" of sales of goods to the Zone's agencies should be made, if only by way of illustration. For this purpose it will be assumed that in 1966 these sales will reach a figure of 12 million balboas - an increase of more than one-third over the figure for 1956 and triple the volume prevailing before the signing of the Treaty.

(b) Terms of trade

As with some of the earlier projections relating to the Zone, the projection of the terms of trade for sales of goods to Canal Zone agencies also assumes the maintenance of the level reached by the relevant index in 1956. Starting from the basic hypothesis that the level of Panama's prices is and will continue to be determined primarily by the level of prices in the United States, and that prices in the Canal Zone will follow the same trend, it is reasonable to assume that the terms of trade will remain unchanged in the future. The historic trend in the terms of trade for this sector of Panama's exports tends to confirm this hypothesis: over the period 1949-56 the difference between the maximum and minimum figures was barely 9 per cent in relation to the lower figure (see table B-46). We shall therefore retain the level of 94.4 (base 1960 = 100) reached by the index in 1956.

(c) Capacity to import

Combining projections "A" and "B" of the quantum of sales of goods to the Zone with the projection of the terms of trade we obtain two projections of the capacity to import in 1966. For projection "A" we obtain a figure of 7.5 million balboas and for projection "B" 11.3 million balboas, the first representing a decline of 10 per cent and the second an increase of 36 per cent in relation to 1956.

6. Projection of sales to Canal Zone residents

(a) Quantum

The purchases made in Panama by persons resident in the Canal Zone are determined by a series of factors, which will have to be analysed seperately to permit any estimate to be made of the prospects for such sales in the coming decade. The main factors are the total population resident in the Zone and their per capita incomes. Other factors, too, have played some part, particularly in recent years, foremost among them being the structure of the resident population as regards the ratio of persons employed at United States rates - whose incomes correspond approximately to the wage-rates applicable to similar posts in the United States federal service, plus a "tropical" differential of some 25 per cent - to that of persons employed at local rates - whose incomes approximate more closely to the wages prevailing on the local labour market.[58] As between the two income levels there is a substantial difference, any change in the proportion of employees in the one or the other category produces a corresponding variation in structure and in the total amount of expenditure.

Another important factor determining the amount and type of purchases made by residents of the Zone in Panama is the volume and variety of goods and services available in the Zone itself and the trend in the prices of these goods and services in relation to prices of the same goods and services in the Panamanian market.

Various developments in recent years - some of which have already been considered - justify the view that these latter factors will not together greatly affect the trend in the prices of such goods and services in the coming decade. As regards the distribution of the resident population between employees paid at United States rates and employees paid at local rates, it has already been suggested that drastic relative contractions such as that which occurred between 1952 and 1955 are probably a thing of the past.

58/ Panama Canal Company and Canal Zone government, Annual Report, Fiscal Year ended 1956, p.28.

As the housing situation in the Zone has been satisfactory since 1956 when the programme for the construction of new houses and the demolition of very old dwellings was completed - it is very unlikely that there will be any major changes during the period 1956-66 - except for the normal decline in employment - in the number of employees resident in the Zone and their distribution between employees paid at local rates and employees paid at United States rates.

So far as concerns the volume and variety of goods and services available in the Canal Zone itself and the trend of relative prices in the Zone and Panama, it is again unlikely that there will be any important changes, once the relevant provisions of the Treaty and Memorandum of 1955 have been fulfilled.[59/] Under these provisions, the exercise of any activities of a commercial nature in the Zone is strictly limited to the basic needs of the resident population and to certain places of entertainment. Nor is there likely to be any great variation in the relative prices of goods and services in the Canal Zone and in Panama, since both will continue to be determined basically as in the past, by the trend of prices in the United States.

In conclusion, it would seem reasonable to assume that the determining factors will be the size of the population and the level of personal income. The size of the population in the Zone has undergone violent fluctuations in the last decade and a half (table III-17). But the most marked fluctuations occurred during the 1940's, in particular during the last years of the Second World War. In 1942 and 1943 the Zone's population more than doubled as compared with 1940 - and was also double the number of residents between 1950 and 1956 - as a result, particularly, of the tremendous increase in the military population. Since 1950, when both the military and the civil populations became stabilized, the number of residents in the Canal Zone has been fluctuating between 53,000 and 58,000.

59/ Panama Canal Company and Canal Zone Government, Annual Report, Fiscal Year ended 1956, pp. 34-38.

Table III-17

PANAMA: POPULATION RESIDENT IN CANAL ZONE

(Thousands)

| Year | Population | | Year | Population | |
|---|---|---|---|---|---|
| | Total | Civil | | Total | Civil |
| 1940 | 57.0 | 30.5 | 1948 | 63.8 | 47.2 |
| 1941 | 83.8 | 42.3 | 1949 | 61.1 | 45.6 |
| 1942 | 121.5 | 55.5 | 1950 | 52.8 | 42.1 |
| 1943 | 126.2 | 57.4 | 1951 | 56.1 | 42.1 |
| 1944 | 98.9 | 47.0 | 1952 | 57.8 | 41.8 |
| 1945 | 87.8 | 45.6 | 1953 | 56.8 | 42.0 |
| 1946 | 66.8 | 48.1 | 1954 | 53.8 | 40.4 |
| 1947 | 64.6 | 47.4 | 1955 | 53.0 | 39.0 |

Source: U.S. Bureau of the Census, Statistical Abstract of the U.S., 1957 (Washington, D.C., 1957).

/In 1955

In 1955 - the last for which information is available - the population numbered 53,000, after falling since 1952 as a result of the decline in the number of employees resident in the Zone, to which reference has already been made. In Section 2, (projection of regular employees) it was stated that the number of employees resident in the Canal Zone had stabilized itself more or less finally in 1957, and that between then and 1966 it would delcine only to the extent of the technological disemployment projected. Accordingly, if we assume a fairly constant trend in the average size of the family and in the proportion of unmarried and married persons resident in the Zone, it may be taken that the population of the Canal Zone in 1966 will be approximately 40,000.

What, then, is the probable future volume of purchases in Panama by Canal Zone residents? As has been seen, none of the factors mentioned above - except the size of the population - is likely to affect this volume to any significant degree. Thus we have only to consider the possible effect on it of a change in the per capita incomes of the Zone's population. As has already been said, the Panama Canal Company has made projections of its future activities, including one on the increase to be anticipated in the coming decade in salaries and wage-rates. An annual rate of increase of 3.5 per cent is predicted, giving a total increase of 41.1 per cent. But this is the increase in the nominal income per employee; if, as has been suggested, prices rise by 1.5 per cent per year, real wages and salaries will rise by only 2.0 per cent annually - a total increase of 21.9 per cent between 1956 and 1966. If the assumptions made above (that the proportions of employees paid at United States and at local rates, of employees resident and not resident in the Zone, and of unmarried and married employees will remain the same, and that the size of families will not change) prove to have been correct, the income per person of the population resident in the Zone will rise at approximately the same rate as the increase anticipated in the index of real wages and salaries. It is further assumed that additional income received by persons employed in the Zone from sources other than their occupations will not significantly affect the basic income determined by wages and salaries.

/If all

If all the foregoing hypotheses are borne out, per capita income in the Zone should rise by 21.9 per cent between 1956 and 1966. Whether or not the expenditures in Panama of Canal Zone residents increase to the same or to a greater or a lesser extent will depend on the income-elasticity of the demand for the objects of these expenditures. The statistical information available on the income of residents in the Zone in the past and on the structure of their expenditures is not sufficient to permit a quantitative estimate of this demand. All that is known is that it consists for the most part of expenditures on entertainment services - restaurants, cabarets, horse-racing, lotteries - and on oriental luxury articles. Both types of demand are characterized by an income-elasticity of more than unity. This coefficient has possibly been in the past about 1.5, and might perhaps reach 2.0 in the future if the supply of such goods and services in Panama is such as to permit or stimulate it. It will be recalled that projection "B" of travellers' (tourists) expenditures is founded precisely on the assumption that Panama will extend and improving its basic tourist services; and if this occurs, "tourism" in the Canal Zone may also be expected under hypothesis "B" to increase. Accordingly, two hypotheses will be used in projecting the purchases in Panama of Canal Zone residents: the first - hypothesis "A" - based on the assumption of an income-elasticity of demand of 1.5, and the second - hypothesis "B" - on the assumption that the extension and improvement of the facilities offered to tourists will bring the income-elasticity of demand up to 2.0.

The foregoing assumptions regarding the coefficient of income-elasticity would imply - given an increase of 2.0 per cent annually in the real income per Canal Zone resident - an increase in demand of 3.0 per cent per year (34.4 per cent in 10 years) under hypothesis "A", and a cumulative annual increase of 4.0 per cent (48.0 per cent in 10 years) under hypothesis "B". But per capita purchases by Canal Zone residents in Panama fluctuated between 1953 and 1956 about an annual average of 380 balboas. On the basis of the increases in the demand of these residents assumed for the coming decade, per capita purchases should by 1966 have risen to 511 balboas under hypothesis "A" and 562 balboas under hypothesis "B". It has already been indicated that the population of the Canal Zone in 1966 should be some 40,000. The total value of purchases made in Panama in 1966 - at 1950

prices - should therefore be 20.4 million balboas under hypothesis "A", and 22.5 million balboas under hypothesis "B", representing increases of 7 per cent and 18 per cent respectively in relation to the quantum of such purchases in 1956.

(b) Projection of terms of trade

The terms of trade for sales of goods and services to residents in the Canal Zone are calculated by comparing the index of the export prices of these goods and services with the index of the unit value of Panama's imports. It has already been said that the latter index will be projected on the hypothesis of an increase of 1.5 per cent annually during the coming decade (see section II.2.b). As for the price index corresponding to goods and services sold by Panama to Canal Zone residents, it is reasonable to suppose that this will closely follow the country's general price index. But it has been explained above that this index will vary as a function of the import prices index, or of the general level of prices in the United States, that is that it too will rise at a cumulative annual rate of 1.5 per cent. The terms of trade under this head will thus remain constant at the 1956 level. In that year, the index of the terms of trade for these goods and services (base 1950=100) was 95.7, and it should be maintained at this figure during the coming decade. This assumption is closely in accordance with the curve of the index throughout the period 1947-56, when it fluctuated very slightly between a minimum of 93.1 in 1947 and a maximum of 100 in 1950 (see table B-46).

(c) Projection of capacity to import

Given the quantum of sales to Canal Zone residents in 1966 - 20.4 million balboas under hypothesis "A" and 22.5 million balboas under hypothesis "B" - and the terms of trade index - which will remain constant at the level of 95.7 over the coming decade - it is a simple matter to calculate the resulting capacity to import. This should be 19.5 million balboas in 1966 under hypothesis "A" and 21.5 million balboas under hypothesis "B".

7. Summary of Canal Zone projections

The volume of sales of goods and services to the Canal Zone in 1956 was 48.0 million balboas. Under hypothesis "A" this figure should fall to 45.8 million balboas in 1966 (a decline of 4.6 per cent), but under hypothesis "B" it would rise to 52.0 million balboas, an increase of 8.3 per cent (see table III-18). As can be seen from the very narrow margin between

Table III-18

PANAMA: PROJECTION OF QUANTUM OF CANAL ZONE

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | |
|---|---|---|---|
| | | Hypothesis "A" | Hypothesis "B" |
| Total | 48.0 | 45.8 | 52.0 |
| Regular wages received by employees resident in Panama | 15.1 | 10.8 | 10.8 |
| Sales of services to Canal Zone agencies | 4.3 | 3.9 | 3.9 |
| Wages received by employees of Panamanian contractors | 0.7 | 2.8 | 2.8 |
| Sales of goods and services to Canal Zone | 8.8 | 7.9 | 12.0 |
| Sales to Canal Zone residents | 19.1 | 20.4 | 22.5 |

Source: See text.

these two projections, external demand originating in the Canal Zone will probably remain relatively stationary.

So far as concerns the quantum of these exports, the items representing sales of labour services to the Zone must be isolated from the rest, since together they represent the gross product originating in the Zone. If we combine the items regular wages, services sold to Canal Zone agencies and wages received by contractors' employees, we obtain a projection of the gross product of the Zone. Table III-19 shows that the absolute total of this gross product will decline by 12.9 per cent during the coming decade.

/Table III-19

Table III-19

PANAMA: PROJECTION OF GROSS PRODUCT OF CANAL ZONE

(Millions of balboas at 1950 prices)

| | 1956 | 1966 a/ |
|---|---|---|
| Wages received by employees resident in Panama | 15.1 | 10.8 |
| Sales of services to Canal Zone agencies | 4.3 | 3.9 |
| Wages of contractors' employees | 0.7 | 2.8 |
| Gross product Canal Zone | 20.1 | 17.5 |

Source: See text.

a/ Hypotheses "A" and "B" are identical in this case.

However, the capacity to import generated by sales of labour services to the Canal Zone will not decline to the same extent, but by a bare 4.5 per cent. This is because the main item in the Zone's product is the wages of regular employees, for which a substantial increase has been projected. According to the information available, the index of these wages will rise at a rate of 3.5 per cent per year. Given the projection of the index of unit prices of imports - 1.5 per cent increase per year - the terms of trade for this item should substantially improve. Nevertheless, since we have assumed that the terms of trade for the other items will remain constant, the terms of trade index for aggregate sales to the Zone will show only a very modest increase. The figure should rise from 110.2 in 1956 (base 100 = 1950) to 114.0 in 1966 under hypothesis "A", while under hypothesis "B", in which regular wages play a relatively smaller part it will rise to only 111.5.

Capacity to import - according to the foregoing assumptions - will maintain its 1956 figure practically unchanged under hypothesis "A" while under hypothesis "B" it will show an increase of 9.4 per cent. In relation to the figure for 1956 - 53 million balboas - this will mean a fall to 52.2 million balboas in the first case and a rise to 58 million balboas in the second (see table III-20). Both the small reduction and the larger increase in the capacity to import in relation to the quantum are due, as has been indicated, to the positive influence of the increases anticipated in Canal Zone wage-rates.

Nevertheless, the prospects for external demand deriving from the Canal Zone in the coming decade are definitely discouraging. Only the smallest of the items included in this group of transactions - wages received by employees of Panamanian contractors - is likely to increase to any great extent. The more important items - regular wages and sales to residents in the Zone - show conflicting trends. Whereas the former will decline, despite the marked increase in wage-rates, from 20.0 million balboas in 1956 to 17.4 million balboas in 1966, the latter will increase slightly, from 18.3 million balboas in 1956 to 19.5 million balboas in 1966 under hypothesis "A" and 21.5 million balboas under hypothesis "B" - an increase of barely 17.5 per cent on the most favourable hypothesis.

Sales of goods to Canal Zone agencies are a different matter. Under hypothesis "A", the figure of 8.3 million balboas recorded in 1956 will fall to 7.5 million balboas in 1966. If it is remembered that 1957 saw the entry into force of the prohibition on purchases in Canal Zone commissaries by Panama residents, which means reducing the demand for Panamanian products on the part of the Zone by some millions of balboas, it will be seen that the foregoing projection does not, as might at first sight seem the case, imply a decline in demand. Consequently, projection "B" under which the figure for sales will rise from 8.3 to 11.3 million balboas - a direct increase of 36 per cent corresponding to a considerably higher real increase - constitutes a fairly favourable hypothesis as regards the Canal Zone's supplies policy.

Lastly, sales of services should decline slightly, mainly as a result of the smaller population of the Zone and the greater productivity and mechanization of its various activities.

Table III-20

PANAMA: PROJECTION OF CAPACITY TO IMPORT OF CANAL ZONE

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | |
|---|---|---|---|
| | | Hypothesis "A" | Hypothesis "B" |
| Total | 53.0 | 52.2 | 58.0 |
| Regular wages received by employees resident in Panama | 20.0 | 17.4 | 17.4 |
| Sales of services to Canal Zone agencies | 5.7 | 5.2 | 5.2 |
| Wages received by employees of Panamanian contractors | 0.7 | 2.6 | 2.6 |
| Sales of goods to Canal Zone agencies | 8.3 | 7.5 | 11.3 |
| Sales to Canal Zone residents | 18.3 | 19.5 | 21.5 |

Source: See text.

# Chapter IV

# PROJECTIONS BY SECTORS

## I. INTRODUCTION

### 1. Background data for sectoral projections

In chapter III a careful analysis was made of the prospects for Panama's external demand in the next decade in the light of two posibilities: that it will continue to develop normally and spontaneously, and that an intensive and determined policy for the promotion of exports of goods and services will be applied. Since the capacity to import is the basic exogenous factor in Panama's economy, these alternative hypotheses were used as a basis for the aggregate projections in chapter II. Macro-economic analysis of Panama's prospects of future growth suggested that there is some possibility of achieving a reasonable improvement in the general standard of living of the population in conditions of economic equilibrium and without imposing any demands which, from the economic point of view at least would appear to be intolerable.

However, this macro-economic projection, which is broken down into its main components in table IV-1, presupposes appreciable changes in the structure of these components. For intance, a projected annual rate of growth of 2 per cent in per capita private consumption implies at the end of ten years, a substantial change in the structure of consumption expenditure. To satisfy this future demand, and demand in the external and public sectors, which would all be at higher levels and differ in composition, production would have to expand and simultaneously change its structure. Much the same thing would occur in the case of imports. This entire process implies a considerable increase in and a specific distribution of investment, as essential conditions for an expansion of productive capacity on the scale and with the structure required. The purpose of this chapter is to define in numerical terms this whole process of growth and change in aggregate demand and the consequent levelling-up of aggregate supplies - these last being limited by the need to keep imports within the bounds imposed by the capacity to import. A specific description of the

/Table IV-1

Table IV-1

PANAMA: AGGREGATE PROJECTIONS

| | 1956 | 1966 | Increments 1955-66 (percentage) | |
|---|---|---|---|---|
| | (Millions of balboas at 1950 prices) | | Total | Annual rate |
| Private consumption | 264.4 | 426.4 | 61.3 | 4.9 |
| Capacity to import a/ | 92.4 | 133.6 | 44.6 | 3.7 |
| Gross investment | 49.2 | 124.7 | 153.5 | 9.7 |
| Gross product | 325.5 | 604.4 | 85.7 | 6.4 |
| Population (thousands) | 940.2 | 1 246.5 | 32.6 | 2.86 |
| | (Balboas at 1950 prices) | | | |
| Per capita private consumption | 281 | 342 | 21.7 | 2.0 |
| Per capita gross product | 346 | 485 | 40.2 | 3.4 |

Source: See tables II-8 and II-9.

a/ Hypothesis B.

changes that will have to be made in the various sectors of the economy, and in the proportion of domestic to total supplies, will demonstrate in full measure what it would mean to try to raise the standard of living in Panama by 22 per cent during the next ten years, against the background of an expansion in the capacity to import of no more than 44.6 per cent.

2. Brief explanation of method used for sectoral projections

The keystone of the sectoral projections, and consequently the first stage in the analysis, is the estimate of the future composition of private consumption. The projection of its various components is obtained - both by categories of goods and by individual items - on the basis of the anticipated growth in per capita private consumption and in the coefficients of the income-elasticity of demand for the final consumer goods or categories of goods in question. The next step is to complete the projection of the demand for final consumer goods by means of a projection of future purchases of such goods by the public sector.

As one of the sources of supply - imports - is faced with the limiting factor of the capacity to import, the problem of import substitution assumes primary importance for future development. The next phase is therefore to analyse import substitution trends in relation to final consumer goods during the past decade, with a view to predicting their future evolution.

After final consumption has been projected and hypotheses have been formulated with regard to import substitution, the next step is to estimate the respective shares of consumption to be met from domestic production and from imports. The latter, stated in 1950 prices to the consumer, are then expressed in terms of c.i.f. value, thereby providing a projection of imports of consumer goods in 1966.

The next task is to project the volume and composition of the demand for intermediate goods derived from the projected production of final goods. The estimates are based primarily on input-product coefficients calculated for the principal branches of production. A fresh analysis then has to be made of import substitution trends, this time in relation to intermediate goods with some evaluation of their possible future development. Certain assumptions regarding the share of domestic production in the total supply of intermediate goods in 1966 are used as the starting point for a projection of imports of intermediate goods, prices having first been adjusted in the manner described in the case of imports of final consumer goods.

Estimates having been made of future production of final and intermediate goods, the next necessary step is to calculate the additional investment required to raise productive capacity to the extent required by the levels of production in question. In the absence of detailed information on this point, the capital needed was estimated on the basis of certain assumptions regarding the product-capital ratio in the Panamanian economy. As the question of import substitution will not arise as regards capital goods, all the additional machinery and equipment required will have to be imported. It should be pointed out here that construction materials are regarded as intermediate goods.

The three sectoral projection stages just described, completed by the incorporation of the optimistic hypothesis for external demand, may be finally converted into projections of domestic production and imports. The former are functionally organized in such a way as to result in a projection of the gross product by sectors, and the latter are compared with the projection of the capacity to import, in order to determine whether external equilibrium is achieved. If not, successive readjustments in the rate of growth initially assumed and in the intensity of the import substitution process would eventually enable this condition to be satisfied.

## II. PROJECTIONS OF DEMAND FOR FINAL CONSUMER GOODS

### 1. Projection of private consumer demand

The basic problem is to determine the future distribution of consumer expenditure. This is of fundamental importance because the composition of consumption is the main determinant of the structure of over-all supply. Not, of course, that there is any question of impairing or restricting the consumer's right to determine the pattern of his own expenditure. On the contrary, it is precisely this freedom of the consumer in the market which enables us - once we know the factors influencing his conduct - to form reasonable hypotheses regarding the future composition of consumption in the private sector.

Innumerable factors, some of them fortuitous, play a part in determining the trend in the pattern of private consumption. Over a period such as that studied in this projection, the most important factors are per capita income levels, population growth, changes in income distribution, changes in relative prices, the rate of urbanization and changes in consumer tastes. The difficulties which would arise if we tried to express any of these factors in numerical terms are obvious; accordingly, certain assumptions must be made to simplify the task of analysis. It will be assumed then, that in the decade ending in 1966 there will be no important changes in income distribution, that variations in relative prices will follow the same trends as in the previous decade and that there will be no marked changes in the rate of urbanization or in consumer tastes. Given these hypothetical but reasonable conditions, the structure of consumption in 1966 will depend primarily on the per capita income level and on the increase in the population.

/Since there

Since there was no possibility of working out a series on disposable personal incomes, private consumption was used instead (see table B-31). This should reach a figure of 426.4 million balboas in 1966, an increase of 61.3 per cent over that for 1956. This projection was obtained by assuming that over the period 1956-66 per capita private consumption will expand at the rate of 2.0 per cent annually and that the population will continue to increase at an annual rate of 2.86 per cent. Total private consumption in 1966 once estimated, its components may be projected by the method of finding a functional equation relating the per capita consumption of each item or group of items to total per capita consumption. For this purpose an equation of the $c = K y^{e}$ [1] type is used, the parameter e representing income-elasticity of demand. This latter coefficient expresses the relationship between relative changes in per capita income and relative changes in per capita consumption. The constancy of this coefficient - implicit in the function utilized - is a reasonable assumption where variations in income are relatively slight, as in this case. Experience in the calculation and use of such coefficients in other countries and for different goods and groups of goods is, of course, useful in the critical assessment of the results obtained in the case of Panama.

The coefficients of income-elasticity used for these projections came from three sources. The problems presented by their use in the projections will be examined below. Some of them were obtained on the basis of the time series for per capita consumption over the period 1945-56 (see table IV-2). To form a better judgement of the value of the results obtained in this case it will be useful to examine some of the factors which tend to make them unsuitable for the present purpose. During the period 1945-56, and especially during the first two years of the period, there was a certain degree of inelasticity in supply which gave rise to distortions in consumption levels. Where it was very obvious that this type of disturbance was present, the data for the years affected were set aside and the calculation was made on the basis of a selected group of years.

1/ Where c = per capita consumption of the item or group of items, y = disposable per capita income - in this case total consumption - and K and e are two parametric constants.

Table IV-2

PANAMA: PROJECTION OF PRIVATE CONSUMPTION

(Thousands of balboas at 1950 prices)

| | Elasticity coefficient | | Private consumption | | | | Annual rate of growth of consumption | |
|---|---|---|---|---|---|---|---|---|
| | Time series | Income interval coefficients | 1956 | Average 1954-1956 | Projection 1966 | Percentage increase 1956-1966 | 1945-56 | 1956-65 |
| Total | | | 264 353 | | 426 391 | 61.3 | 4.4 | 4.9 |
| 1. Foodstuffs | | | 99 848 | | 153 056 | 53.3 | 3.5 | 4.4 |
| a. Bread and grain | | | 23 069 | | 34 050 | 47.6 | 3.4 | 4.0 |
| Bakery products | | 1.00 | 8 675 | | 14 019 | 61.6 | 3.4 | 4.9 |
| Rice | 0.29 | | 10 820 | | 15 202 | 40.5 | 4.8 | 3.5 |
| Maize | | 0.00 | 2 907 | | 3 855 | 32.6 | 8.0 | 2.9 |
| Other grain | | | 667 | | 964 [a] | 46.0 | -4.1 | 3.9 |
| b. Meat | | | 23 409 | | 36 026 | 53.9 | 2.7 | 4.4 |
| Beef | | 0.62 | 13 349 | | 20 024 | 50.0 | 2.5 | 4.1 |
| Ham | | 1.00 | 1 583 | | 2 558 | 61.6 | 8.8 | 4.9 |
| Pork and pork products | | 0.46 | 2 571 | | 3 736 | 45.3 | 0.5 | 3.8 |
| Poultry | | 1.14 | 5 042 | | 8 375 | 66.1 | -1.2 | 5.2 |
| Miscellaneous | | | 864 | | 1 333 [a] | 54.3 | 5.4 | 4.4 |
| c. Fish | 1.46 | | 1 922 | | 3 398 | 76.8 | 10.3 | 5.9 |
| d. Milk, cheese and eggs | | 1.00 | 11 679 | | 18 873 | 61.6 | 2.6 | 4.9 |
| e. Oils and fats | 0.66 | | 4 154 | | 6 281 | 51.2 | 2.9 | 4.2 |
| f. Fruit and vegetables | | | 23 267 | | 36 157 | 55.4 | 6.1 | 4.5 |
| Home-grown | | 0.61 | 4 334 | | 6 488 | 49.7 | 5.4 | 4.1 |
| Imported | | 1.00 | 4 003 | | 6 469 | 61.6 | 8.6 | 4.9 |
| Unspecified | | | 14 930 | | 23 200 [a] | 55.4 | 5.8 | 4.5 |
| g. Sugar and confectionary | | 1.00 | 5 949 | | 9 614 | 61.6 | 6.0 | 4.9 |
| h. Coffee, tea, cacao etc. | | | 3 256 | | 4 317 | 32.6 | -4.7 | 2.9 |
| Coffee | | 0.00 | 3 124 | | 4 142 | 32.6 | -4.7 | 2.9 |
| Miscellaneous | | 0.00 | 132 | | 175 | 32.6 | -5.1 | 2.9 |
| i. Other foodstuffs | | | 3 143 | 3 182 | 4 341 | 38.1 | 9.0 | 2.3 |
| Salt | | 0.00 | 604 | 653 | 891 | 47.5 | 10.8 | 4.0 |
| Ice | | 0.00 | 99 | 107 | 146 | 47.5 | -2.1 | 4.0 |
| Miscellaneous | | 0.00 | 2 440 | 2 422 | 3 304 | 35.4 | 9.5 | 3.1 |
| 2. Beverages | | | 18 511 | | 30 445 | 64.5 | -1.3 | 5.1 |
| a. Non-alcoholic | | 1.00 | 3 090 | | 4 993 | 61.6 | 0.3 | 4.9 |
| b. Alcoholic | | | 15 421 | | 25 452 | 65.0 | -1.6 | 5.1 |
| Domestic | | 1.07 | 11 709 | | 19 179 [b] | 63.8 | -0.2 | 5.1 |
| Imported | | | 3 712 | | 6 273 [b] | 69.0 | - | 5.4 |

Table IV-2 (Continued)

| | Elasticity coefficient | | | Private consumption | | | | Annual rate of growth of consumption | |
|---|---|---|---|---|---|---|---|---|---|
| | Time series | Income interval | Assumed coefficient | 1956 | Average 1954-1956 | Projection 1966 | Percentage increase 1956-1966 | 1945-56 | 1956-66 |
| 3. Tobacco manufactures | | | | 4 554 | | 6 952 | 52.7 | 0.2 | 4.3 |
| a.Cigarettes | | 0.72 | | 3 831 | | 5 861 | 53.0 | 0.4 | 4.3 |
| b.Miscellaneous | 0.65 | | | 723 | | 1 091 | 50.9 | -0.9 | 4.2 |
| 4. Clothing | | 1.24 | | 35 373 | 34 726 | 61 985 | 75.2 | -0.8 | 5.8 |
| a.Footwear | | c/ | | 7 749 | 5 904 | 10 539 | 36.0 | 10.7 | 3.1 |
| b.Wearing apparel | | c/ | | 24 373 | 24 805 | 44 277 | 81.7 | 6.2 | 6.2 |
| c.1 Other non-durable pers.effets | | c/ | | 974 | 1 066 | 1 903 | 95.4 | -13.2 | 6.9 |
| c.2 Miscellaneous durable personal effects | | c/ | | 2 277 | 2 950 | 5 266 | 131.3 | -17.5 | 8.7 |
| 5. Rents and water consumption | 0.49 | | | 37 025 | | 54 131 | 46.2 | 3.9 | 3.9 |
| 6. Fuel and lighting | 1.90 | | | 6 782 | | 13 055 | 92.5 | 6.9 | 6.8 |
| 7. Furniture, fittings and household effects | | | | 14 830 | | 25 439 | 71.5 | 10.9 | 5.5 |
| a.1 Non-durable furniture and fittings | | 1.29 | | 71 | | 121 | 70.4 | 3.0 | 5.5 |
| a.2 Durable furniture and fittings | | 1.29 | | 3 299 | | 5 641 | 71.0 | 4.0 | 5.5 |
| b.1 Non-durable household effects | | 1.31 | | 5 141 | | 8 827 | 71.7 | 12.3 | 5.6 |
| b.2 Durable household effects | | 1.31 | | 6 319 | | 10 850 | 71.7 | 6.8 | 5.6 |
| 8. Household maintenance | | | | 8 930 | | 14 168 | 58.7 | 4.9 | 4.5 |
| a.Domestic services | | | 1.00 | 4 887 | | 7 897 | 61.6 | 4.2 | 4.9 |
| b.Miscellaneous expenditure | | 0.79 | | 4 043 | | 6 271 | 55.1 | -5.7 | 4.5 |
| 9. Personal care and health | | | | 18 320 | 17 018 | 28 139 | 53.6 | 5.1 | 4.4 |
| a.Personal care | | 0.75 | | 8 711 | 8 143 | 13 078 | 50.1 | 3.0 | 4.1 |
| b.Health | | 1.25 | | 9 609 | 8 875 | 15 061 | 56.7 | 7.5 | 4.6 |
| 10. Transport and communications | | | | 33 645 | 29 695 | 57 272 | 70.2 | 6.4 | 5.5 |
| a.Personal transport equipment | | | 2.00 | 5 849 | 4 822 | 10 121 | 73.0 | 20.8 | 5.6 |
| b.Utilization of equipment | | | 2.00 | 9 164 | 8 590 | 18 030 | 96.7 | 12.3 | 7.0 |
| c.Purchase of transport services | 1.23 | | | 16 304 | 14 014 | 24 973 | 53.2 | 2.3 | 4.4 |
| d.Communications | | | | 2 328 | 2 269 | 4 148e/ | 78.2 | 7.4 | 5.9 |
| 11. Entertainment etc. | | | | 12 672 | | 24 308 | 91.8 | 1.0 | 6.7 |
| a.Entertainment | 2.00 | | | 3 406 | | 6 686 | 96.3 | 0.1 | 7.0 |
| b.Hotels and restaurants | | | | 3 403 | | 6 543 | 92.3 | 1.4 | 6.8 |
| i. Hotels | | | | 1 262 | | 3 261d/ | 158.4 | - | 10.0 |
| ii. Restaurants | | | | 2 141 | | 3 282e/ | 53.3 | - | 4.4 |

Table IV-2 (Continued)

| | Elasticity coefficient | | | Private consumption | | | | Annual rate of growth of consumption | |
|---|---|---|---|---|---|---|---|---|---|
| | Time series | Income interval | Assumed coefficient | 1956 | Average 1954-1956 | Projection 1966 | Percentage increase 1956-1966 | 1945-56 | 1956-66 |
| c.Books, periodicals, magazines | | 1.69 | | 2 413 | | 4 462 | 84.9 | 0.6 | 6.3 |
| d.Miscellaneous | | | | 3 450 | | 6 617[a/] | 91.8 | 1.8 | 6.7 |
| 12. Miscellaneous services | | | | 5 577 | | 8 594 | 54.1 | 3.7 | 4.4 |
| a.Financing | 0.00 | | | 518 | | 687 | 32.6 | 3.4 | 2.9 |
| b.Other services | 0.83 | | | 5 059 | | 7 907 | 56.3 | 3.7 | 4.6 |
| Net adjustments | | | | -31 714 | | -51 159 | 61.3 | - | - |

Source: Tables B-26 and B-31. See also text.

a/ Projection based on percentage increase for all other items in the group or sub-group concerned.

b/ Projection based on that of the quantum of expenditure of foreign tourists and residents in the Canal Zone (see chapter III, sections III.3 and IV.6).

c/ The income-elasticity coefficient for the group was used.

d/ Projection based on the estimated quantum of foreign tourist expenditure.

e/ Projection based on the percentage increase for the foodstuffs group.

/Another element

Another element which could have affected the elasticity coefficients derived from comparison of the various time series is that of changes in relative prices. This factor would not distort the calculation if trends in relative prices were to remain unchanged in the future. Even though this latter assumption is not entirely realistic - especially as future growth should be greater than that registered in 1945-56 and as, in addition, structural changes of some importance should take place - the distortion is not regarded as likely to be very great.

The main disturbing element is perhaps the fact that the detailed consumption series include purchases by the Government, by foreign visitors and by residents in the Canal Zone (see table B-31). The share of consumption made up by these purchases - particularly those of the latter two groups - is entirely unrelated to per capita income in Panama, and they have probably followed, and will continue to follow, a trend different from that of per capita income. Accordingly, certain adjustments have to be made in the projections; these will be explained later, but it is hard to say exactly how far they can reduce or remove any errors.

All the circumstances just described have to a greater or lesser extent affected the elasticities calculated, and have in many cases resulted in low coefficients of correlation. But the results obtained were subjected to critical examination and compared with those of countries with similar conditions. Only those coefficients which appeared reasonable were used for the projection.

The second group of coefficients of income-elasticity was obtained by relating average per capita consumption to average per capita income in a group of urban families at different income levels.[2/] The main disadvantage here was that the survey was an urban one and that these elasticities could, therefore, only be used for the projection of a certain type of goods and services. On the other hand, these coefficients have the advantage - since they were based on a survey covering a very short period - of not being affected by changes in relative prices,

2/ Statistical and Census Department, Estudio de los ingresos, gastos y costo de la vida, Panama City, 1952-53.

inelasticities in supply, variations in income distribution and urbanization or changes in consumer tastes.

Thirdly, in a very few cases (either because not enough information was available to make a calculation possible or because the results did not appear reasonable) hypothetical elasticities were used; these were taken from the equivalent coefficients for countries at a similar stage of economic development.

Table IV-2 gives the coefficients of income-elasticity used and the results of the projections.3/ Since the consumer items used as the basis of the projection in 1956 included sales to persons not resident in Panama but excluded purchases made in the Canal Zone, an over-all adjustment had to be made (see table B-31). For this purpose, it was assumed that the net adjustment increased proportionately to total consumption.

The differences in the income-elasticities characteristic of the various types of consumption have meant that with the growth in total consumption there has necessarily been a modification of the latter's structure. The relative growth, for instance, of the consumption of beverages, wearing apparel and other personal effects, fuel and lighting, furniture and household effects, transport and communications and recreations and entertainments must be greater than that of total consumption, and the relative importance of these categories within the total must therefore increase. The increase is bound to be particularly marked in fuel and lighting (92.5 per cent) and recreations and entertainments (91.8 per cent). The contrary must be the case with the other six groups in the list - foodstuffs, tobacco, rents and water consumption, household maintenance, personal care and health, and miscellaneous services - and the relative importance of each of these should therefore decline. The

3/ The formula employed for the projections was: $Cp = Co\ (1 + te)(1 + r)^n$, where Cp = consumption projected for 1966; Co = consumption in 1956; t = annual rate of growth of total *per capita* consumption (2 per cent); e = income-elasticity of demand; r = annual rate of growth of the population (2.86 per cent); and n = number of years projected (10). In cases where consumption in 1956 appeared to be abnormal, Co represents the annual average *per capita* consumption during the period 1954-56, and then n = 11.

increase under the head of rents and water consumption would be especially small, not exceeding 46.2 per cent. But the foodstuffs group - which as a whole will grow by 53.3 per cent - there is a range of varying prospects. Traditional foods like rice and maize will increase by only 40.5 and 32.6 per cent respectively, whereas consumption of livestock products will expand by more than 60 per cent. It is obvious that in response to these structural changes in private consumer demand there will have to be a change in the composition of supply and, more particularly, a recasting of Panama's productive activities.

2. Projection of consumer demand in the public sector

During the period 1945-56 consumer expenditure in the public sector increased at a rate slightly below that of private consumer expenditure. The share of the public sector in total consumption fell from 14.8 per cent in 1945 to 13.5 per cent in 1956, touching a minimum of 12.2 per cent in 1949. In the absence of evidence of the sort which could be derived only from a long-term policy, it will be assumed for this projection that the share of the public sector in total consumption will remain the same as in 1950-56, namely, 13.2 per cent. Seeing that in 1956 it rose to 13.5 per cent, the above assumption implies that the growth of public consumer expenditure will be slightly below that of private consumption. In any event, public consumption should rise from 41.3 million balboas in 1956 to 64.8 million balboas in 1966. This means an increase of 57.1 per cent for the period, and as this is markedly higher than the population growth it necessarily implies the improvement of public services both in quantity and in quality (table IV-3).

It will be assumed that the distribution of the Government's consumer expenditures as between wages and purchases will be the same as in 1956: 30.5 per cent for purchases and 69.5 per cent for wages. This would mean that in 1966 consumer expenditure in the public sector will be divided as follows: 45.1 million balboas for wages and 19.8 million balboas for purchases of goods and services.

3. Trends and possibilities for the substitution of imported consumer goods

According to the basic assumptions of the projection, the total demand for consumer goods and services will increase between 1956 and 1966 by

/Table IV-3

Table IV-3

PANAMA: PROJECTION OF CONSUMER DEMAND IN PUBLIC SECTOR

(Thousands of balboas at 1950 prices)

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Total | 41 269 | 64 843 | 57.1 |
| Remuneration of personnel | 28 670 | 45 066 | 57.2 |
| Purchases | 12 599 | 19 777 | 57.0 |

Source: See table B-27 and text.

about 62 per cent. In order to meet the new level of demand, the total supply of consumer goods and services would have to grow to the same extent. It remains to determine the relative increases in imports and in domestic production of consumer goods and services. But imports of consumer goods have to remain within the bounds set by the capacity to import - although it must not be forgotten that imports of intermediate and capital goods will be an essential conditions for the achievement of the postulated rate of growth. From the above we can form a first conclusion of some importance, namely, that domestic production of consumer goods and services is likely to grow more rapidly than imports of these goods and services.

It is a well-known fact that economic development demands rising investment and an increasing input of intermediate goods. The fact that a high proportion of the supply of capital goods and raw materials and fuels is accounted for by imports means that these items absorb a large and growing proportion of the capacity to import. In these circumstances the substitution of imported consumer goods by domestic production becomes imperative from the point of view of balanced growth. Thus, considerations of cost, quality, variety of product and so on take second place, and should perhaps be regarded as the sacrifice required of a certain section of the community in order to achieve a given rate of economic growth, a fuller and better use of productive resources and, paradoxical as it may seem, a higher general standard of living.

If an effort is to be made to raise the general standard of living

during the coming decade to the extent previously indicated, then it would appear, given the present circumstances and the future prospects of Panama's capacity to import, that the development policy should give primary attention to the problem of imports substitution. Barring the unforeseen appearance of highly favourable external factors, the growth of Panama's economy will undoubtedly be determined by the effort achieved in this direction. In this section a general survey will be made of the import substitution trends which have prevailed over the last decade, and at the same time an attempt will be made to bring out the main elements which might determine future substitution prospects. A study of the resources available and of the economic and technical viability of production will enable us to frame specific hypotheses regarding the possible substitution of imports of consumer goods in the coming decade.

(a) Private consumption (see tables IV-4, IV-5, IV-6, B-26, B-29 and B-30)

There was no indication of an accelerated substitution trend in private consumer goods and services as a whole during the period 1945-56, the share of domestic supply rising only from 65 per cent in 1945 to 70 per cent in 1956. The substitution effort, moreover, was concentrated in the first three years, for by 1948 the proportion of the domestic to the total supply had already risen to about 71 per cent. This initial rise reflects the fall in imports after 1946 and the resistance of private consumption to this fall.[4/] In 1949 the proportion reached in the earlier years began a downward movement, which ended in 1951. There was a fresh recovery in 1953, and since then the proportion has been maintained, with slight variations, at about 70 per cent. The fall in the share of domestic production between 1949 and 1951 was probably due to the contraction of Panama's economic activity during those years and the unemployment resulting from it. As this contraction affected the lower-income groups most, it undoubtedly produced a greater slackening of domestic demand than of the demand for imported goods. This interpretation is confirmed, as will be seen later, by the contraction suffered under the head of foodstuffs during those years.

On the basis of the hypotheses set forth below regarding the import substitution possibilities for each group, sub-group and individual item of consumer goods and services, it is anticipated that the share of domestic supply in the next ten years will grow from the present figure of 70 per cent to over 80 per cent in 1966.

4/ See chapter I, section II.4.b.

/Table IV-4

Table IV-4

PANAMA: APPARENT CONSUMPTION MET FROM DOMESTIC PRODUCTION, 1945-56

(Percentages)

| Type of consumption | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 65.3 | 65.3 | 67.6 | 70.6 | 70.6 | 67.9 | 67.3 | 68.3 | 70.5 | 69.7 | 70.2 | 70.0 |
| 1. Foodstuffs | 75.8 | 78.6 | 76.4 | 81.2 | 81.7 | 78.5 | 76.1 | 76.6 | 80.6 | 79.4 | 81.0 | 80.4 |
| a. Bread and grain | 83.6 | 85.8 | 78.4 | 83.5 | 94.0 | 93.9 | 88.5 | 89.7 | 95.6 | 95.2 | 92.7 | 94.8 |
| b. Meat | 91.6 | 89.7 | 93.0 | 94.5 | 93.3 | 91.5 | 92.0 | 91.1 | 91.5 | 92.2 | 90.4 | 90.1 |
| c. Fish | 47.2 | 53.4 | 39.5 | 48.6 | 53.6 | 31.7 | 27.2 | 28.8 | 31.6 | 34.3 | 39.1 | 37.9 |
| d. Milk, cheese and eggs | 73.2 | 75.4 | 71.2 | 72.9 | 72.6 | 73.9 | 74.7 | 72.2 | 80.4 | 76.1 | 82.7 | 84.8 |
| e. Oils and fats | 4.5 | 15.8 | 25.8 | 25.6 | 17.6 | 18.5 | 18.7 | 17.7 | 8.6 | 5.4 | 28.6 | 27.7 |
| f. Fruit and vegetables | 78.8 | 85.3 | 79.8 | 81.4 | 78.4 | 73.5 | 74.4 | 68.0 | 71.9 | 74.9 | 75.4 | 72.7 |
| g. Sugar and confectionery | 45.8 | 67.4 | 63.5 | 86.4 | 87.0 | 86.9 | 85.2 | 87.6 | 89.1 | 88.8 | 85.4 | 84.7 |
| h. Coffee, tea and cacao | 71.2 | 68.2 | 72.6 | 98.1 | 95.4 | 77.0 | 84.2 | 90.6 | 92.8 | 97.7 | 96.1 | 86.7 |
| i. Miscellaneous foodstuffs | 26.4 | 28.0 | 23.0 | 22.7 | 22.8 | 23.7 | 12.9 | 25.6 | 19.8 | 23.5 | 26.1 | 22.6 |
| 2. Beverages | 82.4 | 79.2 | 81.6 | 82.3 | 82.5 | 77.5 | 73.0 | 80.6 | 78.6 | 81.7 | 79.6 | 79.9 |
| a. Non-alcoholic | 100.0 | 99.9 | 99.7 | 99.8 | 99.6 | 99.6 | 100.0 | 100.0 | 99.9 | 100.0 | 100.0 | 99.9 |
| b. Alcoholic | 79.5 | 76.5 | 78.5 | 78.7 | 79.5 | 73.2 | 68.0 | 76.0 | 74.0 | 77.8 | 75.2 | 75.9 |
| 3. Tobacco manufactures | 5.8 | 7.2 | 11.5 | 10.4 | 9.9 | 8.9 | 10.7 | 9.3 | 9.8 | 10.9 | 37.9 | 47.1 |
| a. Cigarettes | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 34.5 | 44.2 |
| b. Miscellaneous | 32.6 | 52.7 | 52.8 | 58.5 | 62.2 | 52.8 | 57.4 | 60.6 | 73.4 | 38.5 | 53.0 | 62.9 |
| 4. Clothing and other personal effects | 21.0 | 31.3 | 44.7 | 45.5 | 46.2 | 48.5 | 45.2 | 52.8 | 54.2 | 50.0 | 50.8 | 51.8 |
| a. Footwear | 35.5 | 38.8 | 34.8 | 35.0 | 24.2 | 38.3 | 47.8 | 75.8 | 80.1 | 39.2 | 43.0 | 32.2 |
| b. Wearing apparel | 56.6 | 61.4 | 67.0 | 62.1 | 61.7 | 59.7 | 56.4 | 60.4 | 61.0 | 59.4 | 61.3 | 64.2 |
| c-2 Miscellaneous durable personal effects | 0.4 | 0.9 | 2.0 | 3.0 | 4.2 | 5.4 | 3.6 | 5.8 | 6.3 | 5.8 | 5.3 | 8.3 |
| 6. Fuel and lighting | 84.6 | 84.7 | 84.8 | 83.2 | 83.0 | 81.5 | 82.8 | 81.7 | 82.5 | 80.0 | 81.7 | 80.5 |
| 7. Furniture, fittings and household effects | 29.6 | 20.4 | 14.3 | 16.1 | 16.8 | 14.5 | 18.7 | 24.7 | 19.7 | 20.0 | 17.5 | 15.4 |
| a-2 Durable furniture and fittings | 66.1 | 70.4 | 62.0 | 66.3 | 69.8 | 57.3 | 65.1 | 80.8 | 77.0 | 71.4 | 68.4 | 69.0 |
| 8. Household maintenance | 83.4 | 79.6 | 81.8 | 78.5 | 76.3 | 68.4 | 66.2 | 68.1 | 71.1 | 81.1 | 88.6 | 84.9 |
| b. Miscellaneous expenditure | 60.1 | 53.6 | 57.6 | 53.8 | 51.6 | 43.0 | 38.7 | 42.1 | 44.7 | 58.8 | 72.6 | 66.7 |
| 9. Personal care and health | 23.0 | 18.1 | 27.0 | 28.7 | 32.6 | 26.5 | 27.6 | 26.8 | 27.1 | 23.5 | 23.3 | 23.9 |
| a. Personal care | 14.2 | 9.4 | 18.5 | 19.2 | 24.9 | 17.9 | 18.1 | 15.5 | 14.9 | 13.6 | 15.2 | 14.1 |
| b. Health | 35.6 | 36.1 | 35.8 | 36.2 | 37.6 | 32.9 | 34.6 | 38.2 | 41.4 | 34.3 | 29.7 | 32.8 |
| 11. Entertainmt, etc. | 71.4 | 58.2 | 63.6 | 69.9 | 70.4 | 67.5 | 62.5 | 50.7 | 65.7 | 62.7 | 62.8 | 66.4 |
| c. Books, periodicals, magazines | 81.6 | 74.3 | 88.3 | 93.6 | 88.2 | 75.4 | 75.0 | 66.6 | 65.7 | 65.8 | 65.7 | 66.7 |

Table IV-5

PANAMA: IMPORT SUBSTITUTION TRENDS FOR SELECTED PRODUCTS

| tem and year | Imports | Re-exports | Production | Exports | Net imports plus production | Production as a percentage of total |
|---|---|---|---|---|---|---|
| ulled rice (Kg net) | | | | | | |
| 1945 | 4 865 394 | - | 60 055 580 | | 64 920 974 | 92.5 |
| 1946 | 3 280 655 | - | 55 383 583 | | 58 664 238 | 94.4 |
| 1947 | 6 639 374 | - | 61 779 230 | - | 68 418 604 | 90.3 |
| 1948 | 5 226 968 | - | 75 976 660 | 6 818 | 81 203 628 | 93.6 |
| 1949 | 75 050 | - | 80 830 094 | - | 80 905 144 | 99.9 |
| 1950 | 13 258 | - | 85 547 451 | - | 85 560 709 | 100.0 |
| 1951 | 3 467 160 | - | 86 318 558 | - | 89 785 718 | 96.1 |
| 1952 | 3 172 806 | - | 92 759 564 | - | 95 932 370 | 96.7 |
| 1953 | 603 | - | 113 352 641 | - | 113 353 244 | 100.0 |
| 1954 | 444 | - | 100 878 861 | - | 100 879 305 | 100.0 |
| 1955 | 91 | - | 101 014 938 | - | 101 015 029 | 100.0 |
| 1956 | 390 | 98 | 100 198 473 | - | 100 198 765 | 100.0 |
| Maize (Quintals) | | | | | | |
| 1945 | 3 491 | - | 34 064 759 | | 34 068 250 | 100.0 |
| 1946 | 3 321 | - | 38 736 757 | 358 | 38 740 078 | 100.0 |
| 1947 | 5 803 | - | 40 823 280 | 5 911 | 40 829 083 | 100.0 |
| 1948 | 664 | - | 47 672 519 | 4 134 | 47 673 183 | 100.0 |
| 1949 | 2 359 | - | 55 837 175 | 4 600 | 55 839 534 | 100.0 |
| 1950 | 3 090 | - | 64 092 550 | 71 219 | 64 095 640 | 100.0 |
| 1951 | 942 | - | 68 583 110 | - | 68 584 052 | 100.0 |
| 1952 | 1 199 | - | 72 529 361 | - | 72 530 560 | 100.0 |
| 1953 | 1 459 | - | 79 287 882 | - | 79 289 341 | 100.0 |
| 1954 | 346 209 | - | 77 791 028 | 84 298 | 78 137 237 | 99.6 |
| 1955 | 1 693 153 | - | 82 961 977 | 77 376 | 84 655 130 | 98.0 |
| 1956 | 1 134 260 | - | 75 795 223 | - | 76 929 483 | 98.5 |
| Beans (Kg net) | | | | | | |
| 1945 | 1 426 216 | - | 3 674 095 | - | 5 100 311 | 72.0 |
| 1946 | 1 276 632 | - | 5 443 104 | - | 6 719 736 | 81.0 |
| 1947 | 1 180 107 | - | 5 624 541 | - | 6 804 648 | 82.7 |
| 1948 | 1 345 912 | 404 | 5 942 055 | 4 500 | 7 287 563 | 81.5 |
| 1949 | 1 344 994 | 701 | 6 304 929 | - | 7 649 222 | 82.4 |
| 1950 | 1 516 385 | 1 106 | 7 393 550 | - | 8 908 829 | 83.0 |
| 1951 | 1 851 429 | 2 844 | 7 937 860 | - | 9 786 445 | 81.1 |
| 1952 | 1 911 445 | 2 133 | 5 987 414 | - | 7 896 726 | 75.8 |
| 1953 | 1 878 374 | 9 800 | 6 304 929 | - | 8 173 503 | 77.1 |
| 1954 | 1 987 619 | - | 5 352 386 | 264 | 7 340 005 | 72.9 |
| 1955 | 2 235 834 | - | 7 529 627 | - | 9 765 461 | 77.1 |
| 1956 | 2 149 140 | 314 | 5 170 949 | - | 7 319 775 | 70.6 |

/Table IV-5 (Continued)

Table IV-5 (Continued)

| Item and year | Imports | Re-exports | Production | Exports | Net imports plus production | Production as a percentage of total |
|---|---|---|---|---|---|---|
| **Beer** | | | | | | |
| (Litres) | | | | | | |
| 1945 | 28 067 | 7 291 | 26 155 829 | - | 26 176 605 | 99.9 |
| 1946 | 41 731 | 30 677 | 23 313 746 | 130 | 23 324 800 | 100.0 |
| 1947 | 32 682 | 25 890 | 21 839 902 | 160 | 21 846 694 | 100.0 |
| 1948 | 182 307 | 142 808 | 17 212 179 | 4 | 17 251 678 | 99.8 |
| 1949 | 347 789 | 145 466 | 14 527 340 | - | 14 729 663 | 98.6 |
| 1950 | 378 200 | 136 602 | 13 095 860 | - | 13 337 458 | 98.2 |
| 1951 | 380 492 | 114 927 | 14 695 960 | - | 14 961 525 | 98.2 |
| 1952 | 371 303 | 116 750 | 16 853 600 | - | 17 108 153 | 98.5 |
| 1953 | 184 126 | 83 581 | 16 359 350 | - | 16 459 895 | 99.4 |
| 1954 | 126 911 | 34 867 | 15 419 230 | 18 | 15 511 274 | 99.4 |
| 1955 | 168 148 | 11 077 | 14 850 276 | - | 15 007 347 | 99.0 |
| 1956 | 46 010 | 8 137 | 15 267 729 | - | 15 305 602 | 99.8 |
| **Potatoes** | | | | | | |
| (Kg net) | | | | | | |
| 1945 | 548 051 | 21 839 | 1 496 854 | - | 2 023 066 | 81.6 |
| 1946 | 85 535 | 6 314 | 3 039 066 | - | 3 118 287 | 97.5 |
| 1947 | 205 670 | 3 098 | 1 542 213 | - | 1 744 785 | 88.4 |
| 1948 | 409 047 | 110 924 | 1 859 727 | - | 2 157 850 | 86.2 |
| 1949 | 300 084 | 11 438 | 2 222 601 | - | 2 511 247 | 88.5 |
| 1950 | 1 729 834 | 4 102 | 1 632 931 | - | 3 358 663 | 48.6 |
| 1951 | 1 144 494 | - | 2 902 989 | - | 4 047 483 | 71.7 |
| 1952 | 2 419 006 | - | 1 859 727 | - | 4 278 733 | 43.5 |
| 1953 | 1 116 243 | - | 1 451 494 | - | 2 567 737 | 56.5 |
| 1954 | 847 579 | - | 2 449 397 | - | 3 296 976 | 74.3 |
| 1955 | 841 098 | - | 2 676 193 | - | 3 517 291 | 76.1 |
| 1956 | 1 361 861 | - | 2 902 989 | - | 4 264 850 | 68.1 |
| **Tomatoes** | | | | | | |
| (Kg net) | | | | | | |
| 1945 | 1 006 | - | 3 090 776 | - | 3 091 782 | 100.0 |
| 1946 | 1 674 | - | 3 926 292 | - | 3 927 966 | 100.0 |
| 1947 | 11 616 | - | 2 812 270 | - | 2 823 886 | 99.6 |
| 1948 | 17 579 | - | 2 492 034 | - | 2 509 613 | 99.3 |
| 1949 | 24 168 | - | 4 909 226 | - | 4 933 394 | 99.5 |
| 1950 | 17 018 | - | 2 127 800 | - | 2 144 818 | 99.2 |
| 1951 | 14 538 | - | 3 447 299 | - | 3 461 837 | 99.6 |
| 1952 | 16 498 | - | 4 354 483 | - | 4 370 981 | 99.6 |
| 1953 | 13 291 | - | 4 404 378 | - | 4 417 669 | 99.7 |
| 1954 | 2 074 | - | 3 864 604 | - | 3 866 678 | 99.9 |
| 1955 | 26 | - | 4 407 554 | - | 4 407 580 | 100.0 |
| 1956 | 28 | - | 4 950 503 | - | 4 950 531 | 100.0 |

/Table IV-5 (Continued)

Table IV-5 (Continued)

| Item and year | Imports | Re-exports | Production | Exports | Net imports plus production | Production as a percentage of total |
|---|---|---|---|---|---|---|
| White sugar (Kg net) | | | | | | |
| 1945 | 3 433 811 | - | 4 243 988 | - | 7 677 799 | 55.3 |
| 1946 | 1 407 270 | - | 6 018 213 | - | 7 425 483 | 81.0 |
| 1947 | 2 739 680 | 2 256 | 7 908 195 | - | 10 645 619 | 74.3 |
| 1948 | 103 694 | 94 | 10 125 217 | - | 10 228 817 | 99.0 |
| 1949 | 29 633 | 167 | 10 363 806 | 250 000 | 10 393 272 | 99.7 |
| 1950 | 19 136 | - | 13 014 688 | 2 454 545 | 13 033 824 | 99.9 |
| 1951 | 10 377 | - | 14 864 663 | - | 14 875 040 | 99.9 |
| 1952 | 12 905 | - | 17 421 062 | 2 835 839 | 17 433 967 | 99.9 |
| 1953 | 10 903 | - | 16 973 776 | 3 377 826 | 16 984 679 | 99.9 |
| 1954 | 16 876 | - | 18 089 158 | 3 187 687 | 18 106 034 | 99.9 |
| 1955 | 16 102 | - | 14 894 374 | - | 14 910 476 | 99.9 |
| 1956 | 20 982 | 10 | 15 034 216 | 61 187 | 15 055 188 | 99.9 |
| Coffee beans, roasted or ground coffee (Kg net) | | | | | | |
| 1945 | 830 741 | - | 3 175 144 | 10 | 4 005 885 | 79.3 |
| 1946 | 930 794 | - | 3 039 066 | - | 3 969 860 | 76.6 |
| 1947 | 863 178 | - | 3 538 018 | 63 | 4 401 196 | 80.4 |
| 1948 | 6 942 | 2 148 | 3 129 785 | - | 3 134 579 | 99.8 |
| 1949 | 52 720 | 1 154 | 2 857 630 | 450 | 2 909 196 | 98.2 |
| 1950 | 499 446 | 22 | 2 902 989 | 45 | 3 402 413 | 85.3 |
| 1951 | 327 777 | 1 189 | 2 948 348 | - | 3 274 936 | 90.0 |
| 1952 | 178 603 | 838 | 3 039 066 | - | 3 216 831 | 94.5 |
| 1953 | 3 706 | - | 2 404 038 | 242 826 | 2 407 744 | 99.8 |
| 1954 | - 171 | - | 2 902 989 | 454 | 2 903 160 | 100.0 |
| 1955 | 54 | - | 2 948 348 | 633 613 | 2 948 402 | 100.0 |
| 1956 | 182 118 | - | 2 267 960 | - | 2 450 078 | 92.6 |
| Refined salt, coarse unrefined salt and rock salt for livestock (kg net) | | | | | | |
| 1945 | 28 698 | - | 2 210 535 | - | 2 239 233 | 98.7 |
| 1946 | 52 460 | - | 7 219 098 | - | 7 271 558 | 99.3 |
| 1947 | 154 683 | - | 4 019 551 | - | 4 174 234 | 96.3 |
| 1948 | 128 240 | - | 3 060 385 | 1 452 | 3 188 625 | 96.0 |
| 1949 | 144 068 | 815 | 3 091 683 | - | 3 234 936 | 95.6 |
| 1950 | 274 665 | - | 4 528 300 | - | 4 802 965 | 94.3 |
| 1951 | 2 106 154 | - | 5 387 221 | - | 7 493 375 | 71.9 |
| 1952 | 125 873 | - | 5 901 141 | - | 6 027 014 | 97.9 |
| 1953 | 101 616 | - | 3 929 241 | - | 4 030 857 | 97.5 |
| 1954 | 157 007 | - | 6 343 393 | - | 6 500 400 | 97.6 |
| 1955 | 474 260 | - | 9 382 868 | 463 | 9 857 128 | 95.2 |
| 1956 | 80 273 | - | 6 971 618 | 2 448 | 7 051 891 | 98.9 |

Table IV-5 (Continued)

| Item and year | Imports | Re-exports | Production | Exports | Net imports plus production | Production as a percentage of total |
|---|---|---|---|---|---|---|
| **Condensed and evaporated milk** | | | | | | |
| (Kg net) | | | | | | |
| 1945 | 2 133 944 | 8 502 | 522 693 | - | 2 648 135 | 19.7 |
| 1946 | 1 647 303 | 488 | 524 816 | 21 | 2 171 631 | 24.2 |
| 1947 | 2 349 922 | 23 983 | 695 656 | - | 3 021 595 | 23.0 |
| 1948 | 2 011 314 | 20 109 | 727 627 | - | 2 713 832 | 26.8 |
| 1949 | 1 600 224 | 8 667 | 848 107 | - | 2 439 664 | 34.8 |
| 1950 | 1 680 784 | 10 259 | 1 221 384 | - | 2 891 909 | 42.2 |
| 1951 | 1 648 613 | 14 515 | 1 442 638 | - | 3 076 736 | 46.9 |
| 1952 | 1 223 481 | 1 503 | 1 713 334 | - | 2 935 312 | 58.4 |
| 1953 | 521 595 | 5 | 2 464 025 | - | 2 985 615 | 82.5 |
| 1954 | 3 906 | 66 | 2 611 690 | - | 2 615 530 | 99.9 |
| 1955 | 11 809 | - | 2 729 924 | - | 2 741 733 | 99.6 |
| **Beef** | | | | | | |
| (Kg net) | | | | | | |
| 1945 | 186 223 | 154 042 | 534 335 | - | 566 516 | 94.3 |
| 1946 | 86 463 | 76 084 | 545 280 | - | 555 659 | 98.1 |
| 1947 | 59 782 | 31 232 | 576 258 | - | 604 808 | 95.3 |
| 1948 | 96 613 | 52 290 | 592 400 | - | 636 723 | 93.0 |
| 1949 | 93 082 | 27 375 | 578 000 | - | 643 707 | 89.8 |
| 1950 | 51 500 | 14 288 | 570 000 | - | 607 212 | 93.9 |
| 1951 | 63 316 | 9 789 | 567 000 | - | 620 527 | 91.4 |
| 1952 | 25 655 | 6 461 | 554 000 | - | 573 194 | 96.7 |
| 1953 | 14 672 | 4 455 | 574 200 | - | 584 417 | 98.2 |
| 1954 | 11 832 | 2 238 | 585 100 | - | 594 694 | 98.4 |
| 1955 | 15 436 | 2 005 | 584 700 | - | 598 131 | 97.8 |
| 1956 | 30 881 | 6 848 | 593 600 | - | 617 633 | 96.1 |
| **Pork** | | | | | | |
| (Kg net) | | | | | | |
| 1945 | 218 857 | 28 549 | 181 975 | - | 372 283 | 48.9 |
| 1946 | 144 892 | 32 800 | - | - | - | - |
| 1947 | 98 448 | 11 913 | - | - | - | - |
| 1948 | 40 545 | 14 344 | - | - | - | - |
| 1949 | 39 232 | 4 229 | - | - | - | - |
| 1950 | 26 581 | 3 945 | 181 900 | - | 204 536 | 88.9 |
| 1951 | 24 289 | 6 276 | - | - | - | - |
| 1952 | 23 821 | 5 438 | 139 800 | - | 158 183 | 88.4 |
| 1953 | 7 472 | 482 | 241 100 | - | 248 090 | 97.2 |
| 1954 | 3 526 | 89 | 225 600 | - | 229 037 | 98.5 |
| 1955 | 8 597 | 41 | 214 600 | - | 223 156 | 96.2 |
| 1956 | 13 627 | 164 | 181 700 | - | 195 163 | 93.1 |

Source: Statistical and Census Department (Dirección de Estadística y Censo), Panamá.

/Table IV-6

Table IV-6

PANAMA: PRIVATE CONSUMPTION BY SOURCE OF SUPPLIES, 1966 a/

(Thousands of balboas at 1950 prices)

| Commodity | Total | Source of supply | | Percentage met from domestic production |
|---|---|---|---|---|
| | | Internal | External | |
| **Total** | **477 544** | **390 261** | **87 283** | **81.7** |
| **1. Foodstuffs** | **153 056** | **145 334** | **7 722** | **95.0** |
| **a. Bread and grain** | **34 050** | **33 563** | **487** | **98.6** |
| Bakery products | 14 019 | 14 019 | - | 100.0 |
| Rice | 15 202 | 15 202 | - | 100.0 |
| Maize | 3 855 | 3 855 | - | 100.0 |
| Other grain | 974 | 487 | 487 | 50.0 |
| **b. Meat** | **36 026** | **35 959** | **67** | **99.8** |
| Beef | 20 024 | 20 024 | - | 100.0 |
| Ham | 2 558 | 2 558 | - | 100.0 |
| Pork and pork products | 3 736 | 3 736 | - | 100.0 |
| Poultry | 8 375 | 8 375 | - | 100.0 |
| Miscellaneous | 1 333 | 1 266 | 67 | 95.0 |
| c. Fish | 3 398 | 3 228 | 170 | 95.0 |
| d. Milk, cheese and eggs | 18 873 | 18 805 | 68 | 99.6 |
| e. Oils and fats | 6 281 | 6 250 | 31 | 99.5 |
| f. Fruit and vegetables | 36 157 | 31 477 | 4 680 | 87.1 |
| g. Sugar and confectionery | 9 614 | 9 133 | 481 | 95.0 |
| h. Coffee, tea, cacao, etc. | 4 317 | 4 231 | 86 | 98.0 |
| **i. Other foodstuffs** | **4 341** | **2 689** | **1 652** | **61.9** |
| Salt | 891 | 891 | - | 100.0 |
| Ice | 146 | 146 | - | 100.0 |
| Miscellaneous | 3 304 | 1 652 | 1 652 | 50.0 |
| **2. Beverages** | **30 445** | **24 172** | **6 273** | **79.4** |
| a. Non-alcoholic | 4 993 | 4 993 | - | 100.0 |
| **b. Alcoholic** | **25 452** | **19 179** | **6 273** | **75.3** |
| Domestic | 19 179 | 19 179 | - | 100.0 |
| Imported | 6 273 | - | 6 273 | - |
| **3. Tobacco manufactures** | **6 952** | **6 386** | **566** | **91.9** |
| a. Cigarettes | 5 861 | 5 568 | 293 | 95.0 |
| b. Miscellaneous | 1 091 | 818 | 273 | 75.0 |
| **4. Clothing** | **61 985** | **44 654** | **17 331** | **72.0** |
| a. Footwear | 10 539 | 10 012 | 527 | 95.0 |
| b. Wearing apparel | 44 277 | 33 208 | 11 069 | 75.0 |
| c. Other personal effects | 7 169 | 1 434 | 5 735 | 20.0 |
| **5. Rents and water consumption** | **54 131** | **54 131** | **-** | **100.0** |
| **6. Fuel and lighting** | **13 055** | **12 934** | **121** | **99.1** |

/Table IV-6 (Continued)

ble IV-6 (continued)

| Commodity | Total | Source of supply | | Percentage met from domestic production |
|---|---|---|---|---|
| | | Internal | External | |
| Furniture, fittings and household effects | 25 439 | 6 866 | 18 573 | 27.0 |
| a. Furniture and fittings | 5 762 | 4 898 | 864 | 85.0 |
| b. Household effects | 19 677 | 1 968 | 17 709 | 10.0 |
| Household maintenance | 14 168 | 13 227 | 941 | 93.4 |
| a. Domestic services | 7 897 | 7 897 | - | 100.0 |
| b. Miscellaneous expenditure | 6 271 | 5 330 | 941 | 85.0 |
| Personal care and health | 28 139 | 10 700 | 17 439 | 38.0 |
| a. Personal care | 13 078 | 3 923 | 9 155 | 30.0 |
| b. Health | 15 061 | 6 777 | 8 284 | 45.0 |
| Transport and communications | 57 272 | 46 249 | 11 023 | 80.8 |
| a. Personal transport equipment | 10 121 | - | 10 121 | - |
| b. Utilization of equipment | 18 030 | 17 128 | 902 | 95.0 |
| c. Purchase of transport services | 24 973 | 24 973 | - | 100.0 |
| d. Communications | 4 148 | 4 148 | - | 100.0 |
| Entertainment, etc. | 24 308 | 17 014 | 7 294 | 70.0 |
| a. Entertainment | 6 686 | 6 686 | - | 100.0 |
| b. Hotels and restaurants | 6 543 | 6 543 | - | |
| c. Books, periodicals, magazines | 4 462 | 3 123 | 1 339 | 70.0 |
| d. Miscellaneous | 6 617 | 662 | 5 955 | 10.0 |
| Miscellaneous services | 8 594 | 8 594 | - | 100.0 |
| a. Financing | 687 | 687 | - | 100.0 |
| b. Other services | 7 907 | 7 907 | - | 100.0 |

rce: See table IV-2 and text.

Relates to value of private consumption before the adjustments made in table IV-2.

/(i) Foodstuffs

(i) Foodstuffs. The development of the substitution trend in this group is similar to that just described, although at a different level: the share of domestic supply rose from 75.8 in 1945 to 80.4 in 1956. In 1949 it reached a figure of about 82 per cent, but it then fell to 76 per cent in 1951. In 1953 it recovered, and in the last four years of the period fluctuated around a figure of 80 per cent. In view of the relative importance of this group - it represents about a third of total consumption - its substitution situation is much the same as that of private consumption as a whole. The analysis in the following paragraphs of the import substitution possibilities for the various food groups and individual items suggests that the share of domestic supply might rise to 95.0 per cent in 1966.

In the sub-group bread and grain there was a considerable rise in the share of domestic supply - from 84 per cent in 1945 to 95 per cent in 1956. The imported component fell to less than half while domestic supply grew by about 63 per cent. The main items contributing to this change were rice - imports of which stopped completely after 1953 - and bakery products of domestic origin, the volume of which greatly increased. The fall in the share of domestic supply in 1951 and 1952 was due principally to the shortfall in rice production during those years. Since the cessation of rice imports in recent years the imported component has consisted only of certain bakery products, some non-tropical grains and small quantities of maize purchased to cover occasional deficiencies. Thus the only substitution possibility for the future lines in having certain stages in the processing of domestic grains (such as maize) and grains imported in their natural state (oats, wheat, barley etc.) carried out in Panama. If we assume that these manufacturing processes will raise the share of domestic supply to 50 per cent in 1966, that imports of certain bakery products will be entirely abolished and that the domestic supply of rice and maize fully meets the demand, the share of domestic supply in the bread and grain group should amount to 98.6 per cent in 1966.

In the meat group no clear tendency has been discernible in the share of domestic supply, which fluctuates around a figure of 92 per cent.

/During the

During the first seven years after the war the value of the imported component fluctuated around an average of 1.5 million balboas. Beginning in 1951, imports expanded at a rate considerably higher than that of the domestic component, mainly as a result of the increase in the consumption of imported ham. The share of domestic supply in the consumption of beef rose during the period from 94.3 to 96.1 per cent. The fluctuations in the intervening years varied from a minimum of 89.8 to a maximum of 98.4 per cent. The growth of the domestic share in the supply of pork has been very large: a rise from 48.9 per cent in 1945 to 93.1 per cent in 1954. Substitution prospects for the future lie in the possibility of producing enough pork meat to permit the substitution of ham imports.

For the purposes of this projection it will be assumed that domestic production will permit the complete elimination of imports of beef, pork and poultry, and that other special types of meat will be substituted only to the extent of 95 per cent, in order to allow for meeting the demand of tourists and other foreign visitors. On the basis of the foregoing assumptions, the share of domestic supply in meeting the demand for meat should be virtually 100 per cent in 1966.

The consumption of fish increased between 1945 and 1956 at an annual rate of 10.3 per cent. Some part was probably played in this trend by the policy of prohibiting the slaughter of cattle and pigs on two days a week. Although the size of the fish and shellfish catch increased, especially in the more recent years, it failed to keep pace with the increase in demand, with the result that the share of domestic supply fell from 47.2 per cent in 1945 to 37.9 per cent in 1956, touching a maximum of 53.6 per cent in 1949 and a minimum of 27.2 per cent in 1951 (table IV-4). Fish imports consist mostly of cod and sardines and other canned fish and shellfish.

The necessary resources, and possibilities of technical improvement although at a relatively low level, except for the shrimp industry, appear to exist, as regards both the catch and processing, to permit a substantial increase in the share of domestic supply. It will therefore be assumed that this could rise to 95 per cent by 1966. The remainder to be

/accounted for

accounted for by foreign supply would consist of special products intended mainly to meet the demand of foreign visitors. It may be observed here that if efforts are to be made to increase meat exports it would seem advisable that fish and shellfish consumption should be encouraged by means of publicity and education programmes and by improving the relative prices of these items. A policy of promoting beef exports would tend, particularly in the early years, to depress domestic consumption. Fish would then be the most accessible source of adequate supplies of proteins.

Up to 1952 there were no clear trends in the substitution of milk, cheese and eggs. Domestic supply fluctuated during these years about a figure of 73 per cent, and then rose to 80.4 per cent in 1953 and 84.8 per cent in 1956. Substitution took place mainly in regard to condensed and evaporated milk, in which the domestic share rose from 19.7 per cent in 1945 to practically 100 per cent in 1956. The imports remaining consist of high-quality cheeses and powdered milk for children - although imports of the latter have been made subject lately to certain restrictions. It appears that it would be perfectly feasible to achieve complete substitution of imports of eggs, milk in all forms, and cheeses, although in the case of the latter it would be wise to allow for small imports to meet special demands. The share of domestic supply would then rise to almost 100 per cent in 1966.

In the edible oils and fats group there has been a great effort at substitution, and as a result domestic supply was able to rise from 4.5 per cent in 1945 to 27.7 per cent in 1956. The proportion of domestic production is still low, however, owing to the importance in the group of butter and lard, the demand for which is met from imports. In this case, too, favourable conditions are anticipated for an accelerated increase in domestic supply. The development of the livestock industry, which should be very intensive if advantage is to be taken of the opportunities offering on foreign markets, allows the assumption that imports of butter could be totally substituted by 1966. It is also assumed that total substitution of lard and of the other imported fats and oils will be achieved. If these assumptions are borne out, domestic

production should be able to meet the entire demand for edible oils and fats in 1966, except, of course, for olive oil.

In the fruits and vegetables group there has been a decline in the share of domestic supply, which amounted to more than 78 per cent in 1945-49, with a maximum of 85.3 per cent in 1946, and less than 76 per cent in 1954-56, with a minimum of 68 per cent in 1952. As regards potatoes, domestic supply registered wide fluctuations ranging between 48.6 in 1950 and 97.5 in 1946, the 1956 figure being 68.1 per cent. In the case of tomatoes, the domestic share in supply was practically 100 per cent throughout the period. As regards beans, domestic supply fell from about 82 per cent in 1946-51 to 75 per cent in the later years of the period, the figure for 1956 being 70.6 per cent. The imported share consists mainly of non-tropical fruits and fruit juices and onions, beans, lentils and potatoes. On the assumption of improved future use of Panama's high land, it would seem reasonable to suppose that there will be a partial substitution of imports of non-tropical fruits and vegetables, and that some processing of fruits still imported will be carried out in Panama. Imports of tropical fruits and vegetables will, of course, be substituted in full. This should allow the share of domestic supply in these items to rise to about 50 per cent, and its share in the group as a whole to rise to 87 per cent in 1966.

In the sugar and confectionery group there has been a great effort at substitution. In the first five years of the period the domestic portion increased from 46 to 87 per cent; and in 1956 it was still maintained at about 85 per cent. The share of production in the demand for refined sugar increased from 55.3 per cent in 1945 to nearly 100 per cent in 1948, and since then demand has been met almost entirely from domestic supplies. Sugared gums, pastilles and other confectionery are still imported. In this group no great effort would be required to achieve a substitution of imports bringing the proportion of domestic supply to 95 per cent by 1966.

The share of the domestic supply in coffee, tea and cacao rose from 71.2 per cent in 1945 to 86.7 per cent in 1956, touching a minimum of 68.2 per cent in 1946 and a maximum of 98.1 per cent in 1948. Coffee is

the main constituent of this group, and the share of domestic supply in this item increased from 79.3 per cent in 1945 to 100 per cent in 1955. Owing to accidental shortfalls in production the share of domestic supply fell to 92.6 per cent in 1956, but it would not require any great additional effort to recover the levels reached in 1948, 1954 and 1955, i.e. about 98 per cent.

During the period under review there was no substitution in the group of miscellaneous foodstuffs. The share of domestic supply fluctuated between 12.9 per cent, in 1951, and 28 per cent, in 1946. As regards the items in this group, the entire demand for salt and ice is met from domestic production, and imports consist mainly of preserved foods. It is assumed that a domestic share of 50 per cent will be achieved under the head of miscellaneous processed foodstuffs. Thus, the future share for the group as a whole will be 61.9 per cent.

(ii) Beverages. Throughout the period 1945-56 domestic supply satisfied practically the entire demand for non-alcoholic beverages. As regards alcoholic beverages, on the other hand, there was a slight downward trend in domestic share, which fell from 79.5 per cent in 1945 to 75.9 per cent in 1956. This fall was to a large extent due to the sharp contraction in sales of beer to Canal Zone residents and foreign visitors. A similar development took place, although to a less marked degree, with the other domestically produced alcoholic beverages. The consumption of foreign alcoholic beverages, on the other hand, shows no clear trend and has fluctuated round about 3.7 million balboas. The main imports are whisky, wines and rum.

As regards non-alcoholic beverages, of course, it is assumed that domestic production will continue to supply the entire domestic market. With regard to alcoholic beverages, it is assumed that the consumption of domestically produced items will grow with income and population, that the consumption of imported items will vary as a function of sales to foreign visitors and Canal Zone residents, and that there will be no substitution of these latter items. On the basis of these assumptions, the share of domestic supply in the consumption of beverages should rise to 79.4 per cent in 1966.

/(iii) Tobacco.

(iii) Tobacco. Between 1945 and 1954 the share of domestic supply fluctuated between 5 and 12 per cent. In 1955 Panama began producing cigarettes and other tobacco manufactures and in consequence the domestic share rose to 37.9 in that year and 47.1 per cent in the following year. The protection already granted to the tobacco industry, and the possibilities which exist for tobacco-growing, would seem to indicate that the share of domestic supply in the consumption of cigarettes and other tobacco manufactures will probably increase rapidly. It may be assumed, therefore, that the share of domestic supply will increase to 95 per cent in the case of cigarettes and to 75 per cent in that of miscellaneous tobacco products. If these assumptions prove correct, the share of domestic production in the group as a whole will amount to 91.9 per cent in 1966.

(iv) Clothing and other personal effects. Considerable substitution has been achieved in this group, the domestic share rising from 21.0 per cent to 51.8 per cent between the beginning and the end of the period under review. The domestic share in footwear consumption shows marked fluctuations, with figures of 24.2 per cent in 1949 and 75.8 and 80.1 per cent in 1952 and 1953 respectively. The high figures of the last two years mentioned were due in part to a considerable increase in domestic production achieved as a result of certain inducements granted to the industry. It is possible, however, that the basic reason was the restrictions on external supply resulting from the Korean war.

In wearing apparel - excluding footwear - the share of domestic supply rose from 56.6 per cent in 1945 to 64.2 per cent in 1956. Imports of wearing apparel consisted mainly of men's and women's underwear, women's dresses, and in particular cotton dresses. The sub-group other personal effects showed a marked downward trend, mainly as a result of the decline in the expenditures of tourists and in purchases by Canal Zone residents. The share of domestic supply in the consumption of articles in this sub-group is very low; less than 1 per cent in 1945 and barely 6 per cent in 1956.

There would seem to be no major obstacles to a rapid expansion of the footwear industry. The share of production in the total supply of

/this item

this item could probably rise to 95 per cent by 1966. In order to meet the demand for certain categories of footwear it will however be necessary to import certain types of hides. Some technical improvement would also be desirable in the treatment and processing of domestically produced hides. As regards wearing apparel, the substitution possibilities are less favourable, owing to a lack of domestic raw materials. Nevertheless, imports of finished wearing apparel could be reduced to a minimum and the domestic manufacture expanded. If that were done it would not be difficult to increase the share of domestic production to 75 per cent by 1966. As regards other personal effects, neither the necessary technical conditions nor the resources exist which would make it possible for domestic supply to play a large part. The sub-group consists mainly of jewellery, other metal articles and leather articles for personal use. Only for this last item do import substitution possibilities exist; it is estimated that the share of domestic supply could be raised to 20 per cent. On the basis of the foregoing, it may be anticipated that the share of domestic supply in this group will expand to reach 72 per cent of demand in 1966.

(v) Fuel and lighting. The share of the domestic supply fell from 84.6 per cent in 1945 to 80.5 per cent in 1956. The domestic supply consists mainly of electricity and gas, and the external supply of kerosene and other fuels. Consumption of the latter has increased more rapidly than that of the group as a whole, owing to the slow growth in gas consumption. If, as is expected, the plans for setting up one or two petroleum refineries in Panama come to fruition in the relatively near future, complete substitution of imports of kerosene and other fuels derived from petroleum should be possible. In that case, the share of domestic supply in this group should increase to about 99 per cent in 1966.5/

(vi) Furniture, fittings and household effects. In the sub-group durable furniture and fittings the share of domestic supply increased

5/ The consequent imports of crude petroleum will be discussed later on in the section on intermediate goods.

/from 66.1

from 66.1 per cent in 1945 to 69.0 per cent in 1956. As household effects and equipment are practically entirely of external origin, and the demand for these has increased more rapidly than the demand for the sub-group referred to, the share of domestic supply shows a decline for the group as a whole. There would appear to be no major obstacle to the large-scale substitution of imports of furniture made of wood and natural and artificial leather, and it is estimated that the share of domestic supply could reach 85 per cent by 1966. It should be observed that this level is not very much higher than that reached in 1952. As regards household effects, the substitution possibilities are, of course, very limited. There is, however, the possibility of developing an artisan industry producing flat goods and carrying out some processes in the assembly and construction of cabinet-work for electrical appliances. It might be possible, by these means, to bring the share of domestic supply up to 10 per cent. On the basis of the foregoing assumptions, the share of domestic supply in the furniture and fittings group should increase to 27 per cent. This would not be above the 1952 percentage, and would be below that of 1945, but the absolute level would be substantially higher.

(vii) Household maintenance. This group includes domestic services and miscellaneous expenditure for the purchase of goods and services connected with the upkeep and maintenance of the home. Under the second item, the share of domestic supply shows no clear trend. It rose from 60.1 per cent in 1945 to 66.7 per cent in 1956, touching a minimum of 38.7 in 1951 and a maximum of 72.6 in 1955. The imported component includes soaps, toilet paper, matches and household cleaning implements. In the first three items there are certain possibilities for the substitution of imports bringing the share of domestic supply up to 85 per cent. The share of domestic supply for the group as a whole would then rise to 93 per cent.

(viii) Personal care and health. The imported component in this group consists in the main of toilet articles and medicines and other medical and sanitary products. With regard to toilet articles, it is assumed that the share of domestic supply will increase to 30 per cent as the result of a relative increase in the proportion of personal

services and of some substitution of imported articles. In the second group of goods and services also, an increase is assumed in the domestic share, rising to 45 per cent in 1966. On the basis of these suppositions, the domestic share for the group as a whole should rise to 38 per cent in 1966.

(ix) Transport and communications. Transport equipment, it goes without saying, is of foreign origin and there are of course no possibilities of substitution by domestic production. Under the head of utilization of equipment, again on the assumption of an early start in petroleum refining activities, it might be possible to substitute the entire quantity of petrol and certain imported oils and lubricants, bringing the share of domestic supply up to 95 per cent. In that case the domestic share in the group would be about 81 per cent in 1966.

(x) Recreation and entertainment. Entertainment and hotel, restaurant and other such services are provided entirely from domestic sources. Under the head of books, periodicals, magazines etc., the share of domestic supply fell from 81.6 per cent in 1945 to 66.6 per cent in 1952, and since then it has fluctuated about a figure of 66 per cent. In toys and games, practically the whole of consumption has been met from imports. For 1966 a domestic share of about 70 per cent in books, periodicals, magazines etc. and of 10 per cent in the other forms of recreation and entertainment might be assumed. On these assumptions, 70.0 per cent of the demand for recreation and entertainment should be met, in 1966, from the domestic production of goods and services.

(xi) Miscellaneous services. These include financing and other kinds of services which are met almost entirely from domestic sources.

(b) Consumption in the public sector

As regards Government purchases, the information available is not sufficiently detailed to permit analysis of import substitution trends or an objective assessment of future prospects. It is known, however, that in 1950 about 27 per cent of these purchases were domestic in origin, and that imports consisted mainly of writing and cleaning materials and implements, petrol and lubricants, motor vehicle spare parts and accessories, medicines, arms and munitions, fertilizers, seeds and fodders, and books

and teaching materials. Since there would not appear to have been any substantial changes in the structure of the Government's purchases, and there has been no deliberate effort to substitute the imported goods purchased by the public sector, the imports component will probably retain the same share of the supply as in 1956. On the basis of this assumption and of the analysis of the substitution possibilities made above, it is estimated that the share of the domestic component in Government purchases could rise to 60 per cent. Thus, of the 19.8 million balboas to be spent on Government purchases in 1966, 11.9 million of them would go to goods and services of domestic origin and 7.9 million balboas to imported goods.

(c) Projection of imports of final consumer goods

On the basis of the projections made earlier, and of certain hypotheses which will be formulated below, it is possible to attempt an estimate of the imports necessary to meet the internal and external demand for final consumer goods. Private consumption should rise to 426.4 million balboas in 1966, and the Government's purchases of goods and services to 19.8 million balboas. Thus the domestic demand for final consumer goods and services would be 446.2 million balboas. Further, in accordance with the projections of future capacity to import in chapter III expenditures of foreign visitors and purchases by Canal Zone residents and agencies should reach a total of 54.7 million balboas in 1966. If to this amount we add some 800,000 balboas - for the probable volume of re-exports of consumer goods [6/] - we arrive at a total external demand for final consumer goods and services of 55.5 million balboas. The total demand for consumer goods and services in 1966 would then be 501.7 million balboas.[7/]

The detailed analysis of import substitution possibilities was made on the basis of a projected total consumption figure of 477.5 million balboas - 426.4 millions for private consumption, plus an adjustment of

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6/ This estimate is based on the projection of re-exports of goods - chapter III, section III.1 - and on the assumption that final consumer goods will maintain the same proportion in relation to the total.

7/ In reality we should add exports of consumer goods and payments of wages and salaries in the public sector; but that is not necessary at this stage.

51.1 millions (see table IV-2) - which is 24.1 million balboas below the figure just projected for total consumer demand. This difference is explained by the fact that the analysis of private consumption does not allow an item-by-item breakdown of Government purchases or of the share of consumption in Panama attributable to foreign visitors and Canal Zone residents - which should strictly speaking be excluded - nor does it cover consumer goods bought by Panamanians in the Zone. Moreover, this analysis - while it undoubtedly covers 95 per cent of total consumer demand in 1966 - does not constitute an adequate sample whose share in the external supply - 81.7 per cent - could be applied to the total amount. We have therefore formulated hypotheses on the share of domestic production in each category of final consumer demand: private, Government, external and re-exports. What we have therefore is a second approximation at a breakdown of the total projected demand for consumer goods between the probable domestic component and the imported portion.

In view of the fact that for all the adjustment items mentioned the proportion accounted for by imported supply is higher than in private consumption, it has been assumed that 85 per cent of the latter will be of domestic origin. In the case of purchases by the public sector, as has already been indicated, 60 per cent should consist of goods produced in Panama. For purchases made in Panama by foreign visitors and Canal Zone residents and agencies; it will be assumed that domestic and foreign sources of supply participate equally; and, finally, as regards re-exports, it will be assumed that about 85 per cent of the value of the exports represents the price paid for the corresponding imports. On the basis of these assumptions, the market value of the consumer goods imported in 1966 should be exactly 100 million balboas (see table IV-7). This would imply that the share of the domestic supply would be 80.1 per cent of the total consumer demand projected. The proportion of imports would in this case be slightly higher than the figure obtained earlier from the detailed analysis of total consumption, before adjustment, when the figure for the domestic share was 81.7 per cent.

In order, finally, to obtain a projection of imports, the figure of 100 million balboas, which represents consumer prices has to be expressed

/Table IV-7

Table IV-7

PANAMA: SHARE OF IMPORTS IN TOTAL CONSUMER DEMAND, 1966

| | Projected value of final consumption (millions of balboas at 1950 prices) | Share of external supply (percentage) | Market value of imports (millions of balboas at 1950 prices) |
|---|---|---|---|
| Private consumption | 426.4 | 15.0 | 64.0 |
| Government consumption | 19.8 | 40.0 | 7.9 |
| External consumer demand | 54.7 | 50.0 | 27.4 |
| Re-exports of consumer goods | 0.8 | 85.0 | 0.7 |
| Total consumer demand | 501.7 | 19.9 | 100.0 |

Source: See tables IV-2, IV-3 and text. For the projection of external demand see chapter III, sections III and IV.

in CIF terms. For this purpose we shall adopt the reverse of the procedure employed in calculating the market value of imported consumer goods.8/ We then obtain an estimate of the FOB value of total imports of the consumer goods projected separately, and this allows us to obtain a weighted coefficient of the FOB value over the value at market prices (see table IV-8). If we apply this coefficient - 0.381 - to the value of the final demand for imported goods less re-exports - 99.2 million balboas - we obtain the corresponding FOB value: 37.8 million balboas. Re-exports were excluded from the calculation because their coefficient of FOB value over re-export value is assumed to be 0.75. Given a demand for re-exports of consumer goods of 0.8 million balboas, the FOB value of the corresponding imports would then be 0.6 million balboas, and the total FOB value of imports in

8/ See appendix B, section C.2.a.

/Table IV-8

Table IV-8

PANAMA: PROJECTION OF F.O.B. VALUE OF IMPORTS OF CONSUMER GOODS, 1966 a/

(Thousands of balboas at 1950 prices)

| Commodity | Value of consumption | Coefficient of value of consumption/ f.o.b. value | F.o.b. value |
|---|---|---|---|
| Total | 87 283 | 0.38 | 33 283 |
| 1. Foodstuffs | 7 722 | | 3 155 |
| a. Bread and grain | 487 | | 278 |
| Miscellaneous | 487 | 1.75 | 278 |
| b. Meat | 67 | | 32 |
| Miscellaneous | 67 | 2.07 | 32 |
| c. Fish | 170 | 1.73 | 98 |
| d. Milk, cheese and eggs | 68 | 1.94 | 35 |
| e. Oils and fats | 31 | 1.78 | 17 |
| f. Fruit and vegetables | 4 680 | 2.80 | 1 671 |
| g. Sugar and confectionery | 481 | 1.44 | 334 |
| h. Coffee, tea, cacao, etc. | 86 | 2.03 | 42 |
| i. Other foodstuffs | 1 652 | | 648 |
| Miscellaneous | 1 652 | 2.55 | 648 |
| 2. Beverages | 6 273 | | 1 792 |
| b. Alcoholic | 6 273 | 3.50 | 1 792 |
| 3. Tobacco manufactures | 566 | | 209 |
| a. Cigarettes | 293 | 3.05 | 96 |
| b. Miscellaneous | 273 | 2.41 | 113 |
| 4. Clothing | 17 331 | | 6 462 |
| a. Footwear | 527 | 2.78 | 190 |
| b. Wearing apparel | 11 069 | 2.50 | 4 428 |
| c. Other personal effects | 5 735 | 3.11 | 1 844 |
| 6. Fuel and lighting | 121 | 2.45 | 49 |
| 7. Furniture, fittings and household effects | 18 573 | | 7 375 |
| a. Furniture and fittings | 864 | 1.89 | 457 |
| b. Household effects | 17 709 | 2.56 | 6 918 |
| 8. Household maintenance | 941 | | 308 |
| b. Miscellaneous expenditure | 941 | 3.06 | 308 |
| 9. Personal care and health | 17 439 | | 5 159 |
| a. Personal care | 9 155 | 3.96 | 2 312 |
| b. Health | 8 284 | 2.91 | 2 847 |
| 10. Transport and communications | 11 023 | | 5 847 |
| a. Personal equipment | 10 121 | 1.83 | 5 533 |
| b. Utilization of equipment | 902 | 2.89 | 312 |
| 11. Entertainments, etc. | 7 294 | | 2 932 |
| c. Books, periodicals, magazines | 1 339 | 1.59 | 842 |
| d. Miscellaneous | 5 955 | 2.85 | 2 089 |

Source: See table IV-6 and text.

a/ Before adjustments.

/1966 would

1966 would be 38.4 million balboas. If we assume that the proportion between FOB and CIF values will be maintained at the figure recorded in the latest years of the period,[9/] we obtain, finally, the projection of the value of imports in 1966, namely, 44.2 million balboas.

If the figure projected for 1966 is compared with total imports of consumer goods in 1956 - including in the latter purchases in the Canal Zone - a decline in absolute figures from 67.4 million balboas to 44.2 million balboas will be noted. This contraction of 35 per cent gives us some idea of the intensity of the process of substitution of final consumer goods which is assumed for the coming decade. It should be borne in mind, however, that a good part of this substitution is due to the prohibition, as from 1957, of purchases in the Canal Zone by Canal Zone employees resident in Panama.

## III. PROJECTION OF DEMAND FOR INTERMEDIATE GOODS

### 1. Main assumptions of the projection

Having projected the demands for final goods and services, both for export and for domestic consumption, and formulated certain hypotheses as to the probable trend in the share of domestic supply, we can attempt to project the demand for intermediate goods.

The first column of table IV-9 consists of a list of intermediate goods; this is not in any way exhaustive, nor need it be. It enumerates, either as separate items or by groups, the intermediate goods used in the construction of the indices of production and imports, and also the other main types of intermediate goods. For the purposes of the present projections, therefore, the list is adequate.

The method of projection employed consisted basically in the use of input-product coefficients, that is, coefficients relating the use of intermediate goods - raw materials, fuels and other materials, to the production of a specific final good or to the output of a specific sector of production. Wherever possible, these coefficients were calculated as

9/ See appendix B, section B.1.a.

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Table IV-9

PANAMA: PROJECTION OF DEMAND FOR INTERMEDIATE GOODS

(Thousands of balboas at 1950 prices)

| | | 1956 | | | 1966 | | | Percentage share of domestic supply | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total | Production | Imports (C.i.f.) | Total | Production | Imports (C.i.f.) | | |
| | | 37 857 | 9 173 | 28 684 | 98 592 | 46 645 | 51 947 | 24.2 | 47.3 |
| 1. | Maize [a] | 1 505 | 1 505 | - | 3 716 | 3 716 | - | 100.0 | 100.0 |
| 2. | Sugar-cane | 810 | 810 | - | 1 463 | 1 463 | - | 100.0 | 100.0 |
| 3. | Tobacco | 291 | 200 | 91 | 958 | 958 | - | 68.7 | 100.0 |
| 4. | Tomatoes | 410 | 410 | - | 756 | 756 | - | 100.0 | 100.0 |
| 5. | Copra | 600 | 484 | 116 | 1 840 | 1 840 | - | 80.7 | 100.0 |
| 6. | Wheat | - | - | - | 2 230 | - | 2 230 | - | 0.0 |
| 7. | Meat | 242 | 242 | - | 533 | 533 | - | 100.0 | 100.0 |
| 8. | Hides and skins | 256 | 204 | 52 | 1 024 | 922 | 102 | 79.7 | 90.0 |
| 9. | Milk | 706 | 706 | - | 1 131 | 1 131 | - | 100.0 | 100.0 |
| 10. | Wood | 800 | 437 | 363 | 2 106 | 2 106 | - | 54.6 | 100.0 |
| 11. | Fertilizers | 651 | - | 651 | 1 665 | 1 332 | 333 | - | 80.0 |
| 12. | Sugar | 507 | 507 | - | 862 | 862 | - | 100.0 | 100.0 |
| 13. | Poultry feed | 222 | 60 | 162 | 369 | 295 | 74 | 27.0 | 80.0 |
| 14. | Wheat flour | 1 892 | - | 1 892 | 3 209 | 3 209 | - | - | 100.0 |
| 15. | Bakery yeast | 102 | - | 102 | 171 | - | 171 | - | - |
| 16. | Malt | 383 | - | 383 | 720 | - | 720 | - | - |
| 17. | Hops | 33 | - | 33 | 100 | - | 100 | - | - |
| 18. | Alcohol | 132 | 132 | - | 215 | 215 | - | 100.0 | 100.0 |
| 19. | Ice | 446 | 446 | - | 739 | 739 | - | 100.0 | 100.0 |
| 20. | Extracts for alcoholic beverages | 29 | - | 29 | 47 | - | 47 | - | - |
| 21. | Extracts for carbonated beverages | 99 | - | 99 | 168 | - | 168 | - | - |
| 22. | Unspecified extracts and essences | 147 | - | 147 | 236 | - | 236 | - | - |
| 23. | Bottles | 220 | - | 220 | 354 | - | 354 | - | - |
| 24. | Crown caps | 141 | - | 141 | 261 | - | 261 | - | - |
| 25. | Cardboard bottles tops | 29 | - | 29 | 55 | - | 55 | - | - |
| 26. | Textiles | 5 326 | - | 5 326 | 11 304 | - | 11 304 | - | - |
| 27. | Thread and cordage | 334 | - | 334 | 709 | - | 709 | - | - |
| 28. | Rubber and wooden heels | 30 | - | 30 | 120 | 24 | 96 | - | 20.0 |
| 29. | (Printing paper | 378 | - | 378 | 687 | - | 687 | - | - |
| | (Printer's ink | 39 | - | 39 | 76 | - | 76 | - | - |
| 30. | Heavy paper bags | 81 | - | 81 | 189 | - | 189 | - | - |
| 31. | (Wrapping paper and large small paper bags | 659 | - | 659 | 111 | - | 111 | - | - |
| | (Other unspecified papers | 131 | - | 131 | 220 | - | 220 | - | - |

/Table IV-9 (Continued)

Table IV-9 (Continued)

| | | 1956 | | | 1966 | | | Percentage share of domestic supply | |
|---|---|---|---|---|---|---|---|---|---|
| | | Total | Production | Imports (C.i.f.) | Total | Production | Imports (C.i.f.) | | |
| 32. | Other intermediate goods for crop-farming | 125 | - | 125 | 192 | - | 192 | - | - |
| 33. | Other intermediate goods for stock-farming | 67 | - | 67 | 136 | - | 136 | - | - |
| 34. | Other intermediate goods for fisheries | 97 | - | 97 | 160 | - | 160 | - | - |
| 35. | Other intermediate goods for industry | 693 | - | 693 | 1 446 | - | 1 446 | - | - |
| 36. | Other intermediate goods for trade | 300 | - | 300 | 504 | - | 504 | - | - |
| 37. | Other intermediate goods for services | 49 | - | 49 | 97 | - | 97 | - | - |
| 38. | Unspecified intermediate goods | 568 | - | 568 | 1 055 | - | 1 055 | - | - |
| 39. | Crude petroleum | 1 095 | - | 1 095 | 1 639 | - | 1 639 | - | - |
| 39-A | Crude petroleum for production of derivatives | | - | | 13 050 | - | 13 050 | - | - |
| 40. | Diesel oil | 969 | - | 969 | 4 579 | 4 579 | - | - | 100.0 |
| 41. | Lubricating oil and grease | 432 | - | 432 | 756 | 756 | - | - | 100.0 |
| 42. | Petrol | 3 813 | - | 3 813 | 8 087 | 8 087 | - | - | 100.0 |
| 43. | Kerosene | 676 | - | 676 | 1 301 | 1 301 | - | - | 100.0 |
| 44. | Asphalt | 99 | - | 99 | 363 | 363 | - | - | 100.0 |
| 45. | Portland cement | 2 027 | 2 027 | - | 5 337 | 5 337 | - | 100.0 | 100.0 |
| 46. | White cement | 29 | - | 29 | 76 | 76 | - | - | 100.0 |
| 47. | Structural iron and steel parts | 298 | - | 298 | 785 | 236 | 549 | - | 30.0 |
| 48. | Nails, tacks and brads | 162 | - | 162 | 427 | 427 | - | - | 100.0 |
| 49. | Locks | 58 | - | 58 | 153 | 153 | - | - | 100.0 |
| 50. | Forged iron and steel bars | 457 | - | 457 | 1 203 | 1 203 | - | - | 100.0 |
| 51. | Sand | 275 | 275 | - | 724 | 724 | - | 100.0 | 100.0 |
| 52. | Stone | 210 | 210 | - | 553 | 553 | - | 100.0 | 100.0 |
| 53. | Floor-tiles | 360 | 360 | - | 948 | 948 | - | 100.0 | 100.0 |
| 54. | Paint | 855 | 158 | 697 | 2 251 | 1 801 | 450 | 18.5 | 80.0 |
| 55. | Other building materials | 2 408 | - | 2 408 | 6 342 | - | 6 342 | - | - |
| | Iron or steel plate | 623 | - | 623 | 1 391 | - | 1 391 | - | - |
| 56. | Other intermediate capital goods | 220 | - | 220 | 491 | - | 491 | - | - |
| 57. | Electric cables | 216 | - | 216 | 547 | - | 547 | - | - |
| 58. | Unspecified intermediate goods | 3 045 | - | 3 045 | 5 655 | - | 5 655 | - | - |

Source: Statistical and Census Department, Panama. See in addition explanatory notes appended and text.

a/ See explanatory notes at end of table.

/Table IV-9 (Continued)

Table IV-9 (Continued)

Explanatory notes on table IV-9

1. This is used especially in pig and poultry breeding. The quantities used for each purpose are not known, but probably the bulk is used in pig breeding. It was assumed that maize utilized as an intermediate good would increase concurrently with pig production (see table IV-13).

2. Used mainly for sugar and alcohol production. From the findings of industrial surveys for 1955-57 an average value of 10.53 was deduced as the sugar-cane input/sugar output coefficient (both items expressed in equal units of weight). On the basis of this coefficient and the projection of sugar production (see table IV-14) the input of sugar in 1966 was estimated. From the same sources an average input of 4 167 kg of sugar-cane per litre of alcohol was obtained. This coefficient and the projection of the production of alcohol (see note 18) were used to complete the estimate of sugar-cane input in 1966.

3. The estimate was based on the assumption that the input of tobacco for the production of cigarettes and other tobacco manufactures will increase in proportion to the latter (see table IV-14).

4. During the period 1950-56, an average of 2.78 weight units of tomatoes were used per weight unit of tomato concentrate and tomato sauce. This coefficient was applied with the aggregate projection of production of these items (see table IV-14).

5. It was assumed that the input of copra would increase in proportion to the output of edible oils and fats (see table IV-14).

6. A ratio of 140 weight units of wheat in the grain to every 100 of wheat flour was used. On the basis of this ratio and the estimated demand for wheat flour (see note 14), the demand for wheat in the grain was projected. The value was calculated on the basis of a 1950 c.i.f. price of 0.575 balboas per kg.

7. The reference is to meat and other livestock products used in the production of sausages and similar items (see table IV-14). An increase proportionate to the production of such items was assumed.

8. It was assumed that from 1956 to 1966 the use of hides and skins for the manufacture of footwear would increase in proportion to the output of the latter (see table IV-14).

9. The reference is to fresh milk used for the production of condensed and evaporated milk. Over the period 1950-56 as a whole, the input-output ratio stood at 1 813 litres of fresh milk per ton of condensed and evaporated milk produced. On the basis of this coefficient and the projection for these latter products (see table IV-14), the input of fresh milk was estimated.

10. It was assumed that the input of this product would increase in proportion to construction activity (see table IV-15).

/Explanatory notes

Explanatory notes on table IV-9 (Cont.)

11. From a comparison of the use of fertilizers and the product of agriculture in the years 1945 and 1956, an input/output-elasticity coefficient of 2.87 was obtained. This figure was used in conjunction with the projected annual rate of growth of the product of agriculture (see table IV-13).

12. This is sugar used in the production of confectionery. The projection was based on the assumption of an increase identical with that of the production of sugar and confectionery (see table IV-2).

13. Estimated on the basis of the projected growth of production of poultry meat (see table IV-2).

14. Estimated on the basis of the projected increase in the output of bakery products (see table IV-14).

15. See note 14.

16. In 1945-56 an average of 0.151 tons of malt per 1 000 litres if beer was consumed. This ratio was used together with the projection for production of beer (see table IV-14).

17. The procedure followed was similar to that described in note 16. In this case the ratio was 0.00187 tons of hops per 1 000 litres of beer.

18. In 1945-56, the average input of alcohol per 2.27 litres of alcoholic beverages was one litre. The input of alcohol in 1966 was estimated on the basis of this coefficient with the projection of production under the head of "Other alcoholic beverages" (see table IV-14).

19. Projected in proportion to the growth in aggregate demand (gross value) for fish and beverages (see table IV-2).

20. It was assumed that this item would increase in proportion to the production of alcoholic beverages.

21. In 1953-56 the average input of these extracts per case of carbonated beverages was 0.0181 tons. On the basis of this ratio and the projection for the production of such beverages (see table IV-14), the demand for these extracts in 1966 was estimated.

22. These are extracts and essences for the manufacture of alcoholic and non-alcoholic beverages. The estimate was based on the projected growth of agregate production of such beverages.

23. The estimate was based on the projection for aggregate production of milk and alcoholic and non-alcoholic beverages.

24. Used mainly for bottles for carbonated beverages. For 1945-56, an average of 0.129 tons of crown caps per case of carbonated beverages was obtained. This ratio was used in conjunction with the projection for the production of such beverages.

25. Used exclusively for milk bottles. The estimate for 1966 is based on the assumption that their use will increase in proportion to milk consumption.

/Explanatory notes

Explanatory notes on table IV-9 (Cont.)

26-27. See text. An increase proportionate to the rise in the production of textile goods was assumed (see table IV-14).

28. It was assumed that this item would expand in proportion to footwear production (see table IV-14).

29. Estimated on the basis of the projected production of periodicals, books, magazines, etc. (see table IV-2).

30. Estimated on the basis of the projection for cement production (see table IV-14).

31. Estimated on the basis of the projection for the product of trade (see table IV-18).

32. Estimated on the basis of the projection for the product of crop-farming (see table IV-13).

33. Estimated on the basis of the projection for the product of stock-farming (see table IV-13).

34. Estimated on the basis of the projection for the product of fisheries (see table IV-13).

35. Estimated on the basis of the projection for the product of manufacturing industry (see table IV-14).

36. Estimated on the basis of the projection for the product of trade (see table IV-18).

37. Estimated on the basis of the projection of demand for entertainment services (see table IV-2).

38. Estimated on the basis of the projection for the gross product (see table IV-23).

39. The following are the main uses of crude petroleum: production of electric power, gas, cement, sugar and beer (see table IV-10). In 1955-56 these activities absorbed about 74 per cent of total imports of crude petroleum. In the first case, a coefficient of 402.8 tons per million kWh produced was used (estimated average for 1950-56). As gas production is assumed to remain constant, the use of crude petroleum for this activity is stationary. As regards cement, sugar and beer, the amounts used per 1 000 balboas of gross output were 5.5, 0.6 and 0.2 tons, respectively. In the case of cement, the coefficient was calculated as an average of the figures recorded for 1955 and 1956; for sugar and beer, the figures for the latter year were used. For the relevant projections, see tables IV-14, IV-16 and IV-17.

40. To project demand for this product a regression function was used. The best correlation (0.79) was obtained by relating consumption of diesel oil to the total gross product in 1945-56. The resulting function was $Y = 0.000168 \times 2.3$.

Explanatory notes on table IV-9 (Cont.)

41. It was assumed that this item would increase in proportion to the gross product of transport (see table IV-19).

42. To estimate the total demand for petrol in 1966, separate analyses were made of consumer demand (private vehicles), demand in respect of road transport and demand in respect of air transport (see table IV-11). The projection of consumer demand was based on the projection of consumer demand under the head of "Utilization of equipment" (see table IV-2). The input of petrol for road transport was estimated on the basis of the aggregate expansion of passenger and goods transport. The projection of demand for aviation spirit was based on the projection for the tourist industry (see chapter III, section 3. a). i)).

43. The projection was based on the projection of demand for fuel and lighting (see table IV-2).

44. Projected on the basis of the expansion of public construction activity (see table IV-12).

45-55. It was assumed that use of these items would increase in proportion to the product deriving from construction activity (see Table IV-15).

56. It was assumed that demand for these items would increase in proportion to investment in machinery and equipment (see table IV-12).

57. It was assumed that demand for these items would increase in proportion to electric power production (see table IV-17).

58. See note 38.

/averages of

averages of the figures recorded for various industries and various years. In most cases, however, the demand for the intermediate good was projected by varying it from 1956 to 1966 proportionately to the final production of the good in question. This is equivalent to using, for 1966, the input-product ratio observed in 1956. Where there was evidently a tendency for the input-product ratio to vary, a regression function was used, calculated on the basis of the data available for a number of years. This is equivalent to assuming the continuance of the trend observed in earlier years.

Explanatory notes are given at the end of table IV-9 on the methods used for the projection of each of the individual items of intermediate goods. The comments which follow here refer only to the assumptions made in certain projections of particular interest.

In the case of wheat, for instance, it was assumed that in 1966 all the wheat flour demanded on the internal market would be produced in Panama. This would mean importing some 140 kg. of wheat grain for every 100 kg. of flour produced. Nevertheless, because of the difference between the prices of wheat and flour this substitution would mean a saving of about one million balboas in imports. So far as concerns fertilizers, the assumptions made earlier about the probable growth of the agricultural sector imply more intensive use of these. Comparison of the annual rates of growth of fertilizer-input and agricultural product between the first and the last years of the period 1945-56 gave a relationship of 2.83 between the first and the second rate. For lack of a better objective basis for calculating fertilizer requirements in numerical terms, this "elasticity" was used for the projection of fertilizer input in 1966.

In calculating the quantum of imports, all imported textiles were regarded as final consumer goods (see table B-23). For the purpose of these projections, however, it appeared useful to include under intermediate goods an estimated figure for the proportion of imported textiles not purchased directly by the consumer for making his own and his family's clothes. That is why the total CIF value for 1956, which appears in the second column of table IV-9, is higher than the figure which would result

/from the

from the addition of the relevant parts of table B-23.

One of the most important assumptions on which the projection of intermediate goods is based is that a petroleum refinery will be put into operation in the Isthmus. In that event, imports of petroleum derivatives would be entirely eliminated, but imports of crude petroleum would rise correspondingly. In the absence of specific information, a saving of 15 per cent in the value of imports has been assumed.

2. Import substitution possibilities for intermediate goods (see table IV-9)

In the case of intermediate goods, the information available is insufficient - with rare exceptions - to permit a historical analysis of the trend as regards import substitution and the formulation of objective judgments of future possibilities. The assumptions on the probable share of domestic supply in meeting the demand for intermediate goods in 1966 thus rest almost entirely on general considerations concerning the viability of certain of Panama's productive activities. It is assumed, for instance, that domestic supply will continue to meet the total demand for maize, sugar-cane, tomatoes, meat, milk, sugar, alcohol, ice, Portland cement, sand, stone and floor-tiles.

In the case of tobacco, copra and timber, it seems reasonable to expect that the share of domestic supply recorded in 1956 will be increased by 68.7 per cent, 80.7 per cent and 54.6 per cent respectively, thus reaching a level sufficient to eliminate all imports in 1966.

In addition, as has already been indicated, it was assumed that all the wheat flour demanded on the internal market would be produced in Panama from imports of wheat grain. It was also assumed that petroleum derivatives, which have up to now all been imported, will be produced in Panama in the refineries which are planned. According to plan, the Panama cement factory will shortly begin producing white cement. It is therefore assumed that by 1966 imports of this item too will have ceased.

Again, it is hoped that thanks to the recently launched metallurgical industry, total substitution of imports of forged iron and steel bars, nails, tacks and brads and so on will be achieved, and that a lock-making factory will be built, with similar results.

/Table IV-10

Table IV-10

PANAMA: PROJECTION OF CRUDE PETROLEUM DEMAND

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Total | 85 458 | 127 936 | 49.7 |
| Electric power production | 52 477 | 75 853 | 44.5 |
| Gas production | 17 495 | 17 495 | - |
| Cement production | 12 573 | 29 354 | 33.5 |
| Sugar production | 2 027 | 3 844 | 89.6 |
| Beer production | 886 | 1 390 | 56.9 |

Source: See explanatory note No. 39 to table IV-9.

In the light of the hypotheses formulated as regards livestock production,[10/] it would seem logical to expect the input of domestic hides and skins to eliminate the need for imports. The share of domestic production of these items in 1956 was about 80 per cent. Since the assumption that the demand for footwear and other leather goods will be met in full from domestic production implies the use of some hides and skins not produced in Panama, it will be assumed that in 1966 the share of domestic supply in the input of hides and skins will be 90 per cent.

There is no information on the present production of fertilizers in Panama, but the output is probably very small. In view of the support likely to be given to the expansion of agricultural production and productivity, the production of fertilizers should increase very rapidly, and in consequence an appreciable rise can be expected in the share of domestic supply in consumption. In the projection of demand it has

10/ See chapter III, section II.c(i).

/Table IV-11

Table IV-11

PANAMA: PROJECTION OF PETROL DEMAND

(Thousands of tons)

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Total | 79.2 | 173.5 | 119.1 |
| Private vehicles | 38.7 | 76.1 | 96.7 |
| Road transport | 19.9 | 40.5 | 103.5 |
| Air transport | 20.6 | 56.9 | 176.3 |

Source: See explanatory note No. 42 to table IV-9.

therefore been assumed that only 20 per cent of fertilizers will be of external origin. In the case of poultry feed - with the exception of maize grain - it has been assumed that the share of domestic supply will grow from 27.0 per cent in 1956 to about 80 per cent in 1966. It is also assumed that there will be a rise in the share of the domestic supply in meeting the demand for heels for footwear, especially wooden heels. It seems reasonable to anticipate that at least 20 per cent of the demand can be met from domestic production.

As a result of the establishment of the metallurgical plant already referred to, the plans for which include the manufacture of certain types of iron and steel structural parts, it may be expected that in 1966 the share of the domestic supply in these types of products will be about 30 per cent. With regard to paints, their share in the domestic supply - at present about 10 per cent - may be expected to rise to 80 per cent in 1966. For the rest of the intermediate goods listed in the first column of table IV-9, it has been assumed that the share of domestic supply will continue to be little or nothing.

3. Projection of imports of intermediate goods

From the projections of the demand for intermediate goods in 1966 and the assumptions made regarding the probable participation of the

domestic supply in meeting it, we obtain a direct estimate of imports of intermediate goods for that year, i.e. 51.9 million balboas in CIF terms (see again table IV-9). This represents an increase of 81.1 per cent over imports of intermediate goods in 1956, and confirms the view set forth earlier that economic development entails a great increase in imports of intermediate goods and fuels, even where efforts are made to achieve maximum substitution of these by domestic production.

## IV. PROJECTION OF GROSS INVESTMENT

On the basis of the aggregate projections made in chapter II it was estimated that gross investment in 1966 should amount to 124.7 million balboas (see table IV-12). This represents an increase of 153.5 per cent over the figure for 1956. The figure for aggregate investment once known, some hypotheses must be framed as regards its probable future distribution between its different components: public and private investment on the one hand, and construction, machinery and equipment and changes in inventories, on the other.

Comparative analysis of the time series for private investment and the capacity to import gave a high correlation for the regression function relating private investment in one year to the level of the capacity to import in the previous year. Capacity to import, then, appears to be the main determinant of investment by the private sector. If it is assumed that this functional relationship will remain operative during the coming decade, the projected level of the capacity to import would correspond to a total private investment of 69.7 million balboas.[11/] The balance of the gross investment necessary in 1966 - 55 million balboas - would thus have to be provided by the public sector. Compared with the figure for public investment in 1956 - 13 million balboas at 1950 prices - this might appear excessively high. It should be borne in mind, however, that for the ten years ending in 1966 the main investment need will be for basic social capital (mainly highways and other road construction and an extensive electrification programme).

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11/ See chapter II, fig. II-1.

/Table IV-12

Table IV-12

PANAMA: PROJECTION OF GROSS INVESTMENT

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Gross total investment | 49.2 | 124.7 | 153.5 |
| Total public investment | 13.0 | 55.0 | 323.1 |
| Construction | 12.0 | 44.0 | 266.7 |
| Machinery and equipment | 1.0 | 11.0 | 1 000.0 |
| Total private investment | 36.2 | 69.7 | 92.5 |
| Residential construction | 11.5 | 20.2 | 75.7 |
| Other construction activities | 2.9 | 5.3 | 82.8 |
| Capital goods | 21.8 | 39.9 | 83.0 |
| Change in cattle inventories | 0.4 | 4.3 | 975.0 |
| Change in pig inventories | -0.5 | - | - |
| Change in plantation inventories | - | - | - |
| Construction | 26.4 | 69.5 | 163.3 |
| Machinery and equipment | 22.8 | 50.9 | 123.2 |
| Change in inventories | - | 4.3 | - |

Source: See text.

The above estimate accepted, it remains to formulate an assumption on the distribution of public investment as between construction and machinery and equipment. The figure for purchases of machinery and equipment in 1956 is exceptionally low compared with other years in the same period, amounting to only 7.6 per cent of total investment by the public sector, a figure which is in sharp contrast with the 18.3 and 19.6 per cent of 1954 and 1955 respectively. It would seem reasonable to assume that in 1966 this item will represent about 20 per cent of total public investment, that is, 11.0 million balboas.

Certain assumptions also have to be made on the probable distribution of private investment as between residential construction, other

construction activities, capital goods and changes in inventories. In estimating the demand for residential construction, the figure used was that projected for the demand for "rent and water" consumption, and the method employed was the reverse of that used to estimate the series for the gross product originating in the housing sector.[12/] From this projection the figure obtained for investment in residential construction in 1966 was 20.2 million balboas, an increase of 75.7 over that for the year 1956. As regards changes in beef cattle inventories, the estimate was obtained from the projections of the production of beef: 4.3 million balboas.[13/] The balance of private investment - 45.2 million balboas - was distributed proportionately between other construction activities and capital goods.

## V. PROJECTIONS OF THE GROSS PRODUCT

### 1. Aggregate projection

On the basis of the aggregate projections made in chapter II, it was estimated that the gross product in 1966 would be 604.4 million balboas. The projections of external and domestic demand and the hypotheses formulated as regards import substitution possibilities now make it possible to project the gross product for the different sectors of production.

### 2. Agriculture (crops and livestock), forestry and fisheries (see table IV-13)

In projecting the gross product in this sector, use was made of the same items employed in the construction of the series for the period 1945-56. The corresponding items of production in the year 1956 were broken down by destination, into consumption, export and intermediate uses. The projection of the portion destined for consumption was calculated on the basis of the projection of consumer demand and of the assumptions made as regards the probable future trend of import substitution. The projection of the portion destined for export has already been made (chapter III, projection of capacity to import, hypothesis "B"). The

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12/ See appendix B, tables B-16 and IV-17 and section A.2.h.

13/ See chapter III, section II.e(i).

Table IV-13

PANAMA: PROJECTION OF CROP-AND STOCK-FARMING, FORESTRY AND FISHERIES PRODUCTION, 1966

| Product | Unit | 1956 Volume: Consumption | Exports | Intermediate uses | Total | 1956 Value (Thousands of balboas at 1950 prices): Consumption | Exports | Intermediate uses | Total | 1966 Volume: Consumption | Exports | Intermediate uses | Total | 1966 Value (Thousands of balboas at 1950 prices): Consumption | Exports | Intermediate uses | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | | | | | | 53 500 | 22 862 | 4 878a/ | 81 240 | | | | | 80 66 | 38 302 | 27 6[illegible] | 146 262 |
| **Crop-farming** | | | | | | 29 670 | 19 412 | 3 409 | 52 491 | | | | | 42 585 | 20 235 | 8 733 | 80 553 |
| Rice | Quintals | 2 099 | - | - | 2 099 | 8 396 | - | - | 8 396 | 2 949 | - | - | 2 949 | 11 796 | - | - | 11 796 |
| Maize | " | 735 | - | 602 | 1 337 | 1 838 | | 1 505 | 3 343 | 1 018 | - | 1 486 | 2 504 | 2 516 | - | 3 746 | 6 262 |
| Beans | " | 80 | - | - | 80 | 640 | | - | 640 | 184 | - | - | 184 | 1 472 | - | - | 1 472 |
| Potatoes | " | 61 | - | - | 61 | 506 | | - | 506 | 163 | - | - | 163 | 1 351 | - | - | 1 351 |
| Sugar-cane | Tons | 200 | - | 180 | 380 | 900 | - | 810 | 1 710 | 265 | - | 325 | 590 | 1 193 | - | 1 463 | 2 656 |
| Coffee | Quintals | 50 | - | - | 50 | 2 000 | | - | 2 000 | 73 | 48 | - | 121 | 2 920 | 1 995 | - | 4 915 |
| Tobacco | " | 3 | - | 4 | 7 | 150 | | 200 | 350 | 5 | - | 19 | 24 | 257 | - | 958 | 1 215 |
| Tomatoes | Pounds | 4 629 | 4 | 4 098 | 8 731 | 463 | - | 410 | 873 | 7 193 | - | 7 569 | 14 762 | 719 | - | 756 | 1 475 |
| Cabbages | quintals | 40 | - | - | 40 | 400 | | - | 400 | 62 | - | - | 62 | 620 | - | - | 620 |
| Bananas | Stems | 4 664 | 6 231 | - | 10 895 | 4 274 | 17 246 | - | 22 520 | 6 184 | 8 500 | - | 14 684 | 5 667 | 24 890 | | 30 557 |
| Cacao | Pounds | - | 2 558 | - | 2 558 | - | 972 | - | 972 | - | 3 303 | - | 3 303 | - | 1 065 | | 1 065 |
| Miscellaneous | Balboas | | | | | 10 103 | 194 | 484 | 10 781 | | | | | 15 044 | 285 | 1 840 | 17 169 |
| **Stock-farming** | | | | | | 23 480 | 108 | 1 152 | 24 620 | | | | | 38 543 | 4 620 | 2 586 | 50 003 |
| Beef | kg | 14 473 | 308 | 892 | 15 673 | 33 920 | 108 | 242 | 4 270 | 21 710 | 13 216 | 1 969 | 36 895 | 5 880 | 4 620 | 533 | 11 033 |
| Pork | " | 2 865 | - | - | 2 865 | 885 | | | 885 | 7 074 | - | - | 7 074 | 2 185 | | | 2 185 |
| Miscellaneous | Balboas | | | | | 18 675 | - | 910 | 19 585 | | | | | 36 478 | | 2 053 | 38 531 |
| Changes in cattle inventories | Head | | | | 8 900 | | | | 412 | | | | | | - | | 254 |
| Changes in pig inventories | " | | | | -32 900 | | | | -510 | | | | | | - | | - |
| Changes in plantation inventories | Balboas | | | | | | | | -22 | | | | | | - | | - |
| **Forestry** | " | | | | | - | - | 437 | 437 | | | | | - | | 2 106 | 2 106 |
| **Fisheries** | | | | | | 350 | 3 342 | | 3 692 | | | | | 1 553 | 4 547 | | 6 100 |
| Fish | Pounds | 2 584 | 4 | - | 2 588 | 220 | 10 | | 230 | 11 475 | - | - | 11 475 | 977 | - | - | 977 |
| Shrimps | " | 735 | 5 965 | - | 6 700 | 130 | 3 286 | | 3 416 | 3 259 | 8 155 | - | 11 414 | 576 | 4 484 | - | 5 060 |
| Miscellaneous | Balboas | | | | | | 46 | | 46 | | | | | | 63 | | 63 |
| **Undistributed** | | | | | | | | | | | | | | | 500 | | 500 |

Source: See text.

a/ Including changes in inventories.

/The projection

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The projection of the portion intended for intermediate uses has also been made (see section on intermediate goods in chapter IV, projection of demand and substitution possibilities, table IV-9).

The item "Miscellaneous" under crop-farming was projected on the basis of the growth of the other items combined. The figure for this item in the column "Intermediate uses" is the value of the copra used in the production of edible fats and oils. The item "Miscellaneous" under stock-farming refers primarily to poultry, milk, cheese and eggs, among final consumer goods, and hides, skins and other products for intermediate uses. The first group was projected on the basis of the weighted rate of increase in the demand for poultry, milk, cheese and eggs (see table IV-2). The projection of changes in beef cattle inventories in 1966 was derived directly from the hypotheses formulated as regards the possibilities of an increase in meat production (chapter III, section II.1.c). The item "Undistributed" is part of the projection of exports of other products of agricultural origin (see chapter III, section II.1).

3. Manufacturing industries (see table IV-14)

For the projection of this sector the methods used were similar to those employed in connexion with crop-farming, stock-farming, forestry and fisheries, as described in the previous paragraph.

4. Construction (see table IV-15)

The estimate of the gross product of this sector was based on the projection of investment, in particular, under the head of construction (see the projection of gross investment, chapter IV, section IV).

5. Electric power, gas and water (see table IV-16)

(a) Electric power

(i) Residential consumption. It was assumed that residential consumption in Panama as a whole would increase from the 1956 figure - 40.2 million kWh - commensurately with the demand for fuel and lighting for consumption (see table IV-2).

(ii) Business consumption. For the projection of the business input a regression function was worked out relating the consumption of electricity in business to the gross product of that sector in the period 1945-56. The function obtained was as follows: $y = -46.17 + 1.7x$,

PANAMA: PROJECTION OF INDUSTRIAL PRODUCTION

| Production | Unit | 1956 Volume Consumption | 1956 Volume Exports | 1956 Volume Intermediate uses | 1956 Volume Total | 1956 Value (Thousands of balboas at 1950 prices) Consumption | 1956 Value Exports | 1956 Value Intermediate uses | 1956 Value Total | 1966 Volume Consumption | 1966 Volume Exports | 1966 Volume Intermediate uses | 1966 Volume Total | 1966 Value (Thousands of balboas at 1950 prices) Consumption | 1966 Value Exports | 1966 Value Intermediate uses | 1966 Value Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | | | | | | 43 964 | 630 | 4 627 | 49 221 | | | | | 86 283 | 1 334 | 15 113 | 102 730 |
| **Foodstuffs** | | | | | | 17 371 | 115 | 953 | 18 439 | | | | | 31 666 | 1 056 | 1 584 | 34 306 |
| Evaporated milk | Tons | 3 618.3 | 11.1 | - | 3 629.4 | 1 861 | 6 | | 1 867 | 5 852.7 | - | | 5 852.7 | 3 011 | - | | 3 011 |
| Condensed milk | " | 238.7 | - | - | 238.7 | 151 | - | | 151 | 385.7 | - | | 385.7 | 244 | - | | 244 |
| Sugar | " | 12 163.4 | 615.7 | 2 255.1 | 15 034.2 | 2 772 | 99 | 507 | 3 378 | 19 689.0 | 6 600.0 | 3 833.7 | 30 122.7 | 4 488 | 1 056 | 862 | 6 406 |
| Tomato paste | " | 346.6 | - | - | 346.6 | 300 | - | | 300 | 688.3 | | | 688.3 | 597 | - | | 597 |
| Tomato sauce | " | 275.5 | - | - | 275.5 | 218 | - | | 218 | 547.1 | | | 547.1 | 434 | - | | 434 |
| Ice | " | 6 385.6 | - | 36 185.2 | 42 570.8 | 79 | - | 446 | 525 | 9 418.8 | | 58 547.7 | 67 966.5 | 117 | - | 722 | 839 |
| Edible oils and fats | " | 1 538.5 | - | - | 1 538.5 | 869 | - | | 869 | 8 354.1 | | | 8 354.1 | 4 719 | - | | 4 719 |
| Sausages, etc. | " | ... | - | - | ... | 397 | - | | 397 | 967.1 | | | 967.1 | 877 | - | | 877 |
| Salt | " | 6 971.6 | - | - | 6 971.6 | 231 | - | | 231 | 10 471.3 | | | 10 471.3 | 347 | - | | 347 |
| Hulled rice | " | 18 731.2 | 56.0 | - | 18 787.2 | 3 303 | 10 | | 3 313 | 26 336.1 | - | - | 26 336.1 | 4 638 | - | - | 4 638 |
| Bakery products | Thousands of balboas | | | | | 7 190 | - | | 7 190 | | | | | 12 194 | - | | 12 194 |
| **Beverages** | (Thousands of) | | | | | 10 395 | 216 | - | 10 521 | | | | | 16 898 | - | | 16 898 |
| Beer | litres | 14 529.2 | 738.5 | - | 15 267.7 | 4 214 | 214 | | 4 428 | 23 900.5 | | | 23 900.5 | 6 952 | - | - | 6 952 |
| Other alcoholic beverages | " | 2 490.6 | 1.1 | - | 2 491.7 | 3 751 | 2 | | 3 753 | 4 079.6 | | | 4 079.6 | 6 155 | - | - | 6 155 |
| Carbonated beverages | cases | 2 571.3 | - | | 2 571.3 | 2 340 | | | 2 340 | 4 160.4 | | | 4 160.4 | 3 791 | - | - | 3 791 |
| **Clothing** | | | | | | 16 288 | 40 | - | 16 328 | | | | | 37 719 | - | - | 37 719 |
| Footwear | Thousands of pairs | 425.7 | - | | 425.7 | 1 623 | - | | 1 623 | 1 706.9 | | | 1 706.9 | 6 508 | - | - | 6 508 |
| Textiles | Thousands of balboas | | | | | 14 665 | 40 | - | 14 705 | | | | | 31 211 | - | - | 31 211 |
| **Construction materials** | | | | | | | | 3 674 | 3 933 | | | | | | | 13 529 | 13 529 |
| Cement | Tons | - | 10.4 | 65.8 | 76.2 | - | 259 | 2 027 | 2 286 | - | - | 173.3 | 173.3 | - | - | 5 337 | 5 337 |
| Sawn wood | Thousands of square metres | | | 807.2 | 807.2 | | | 1 130 | 1 130 | | | 3 890 | | | | 5 446 | 5 446 |
| Floor-tiles | Thousands | | | | 3 272.5 | | | 359 | 359 | | | 8 616.5 | | | | 945 | 945 |
| Paint | Litres | | | | 265.3 | | | 158 | 158 | | | 3 024.2 | | | | 1 801 | 1 801 |
| **Undistributed** | | | | | | | | | | | | | | - | 278 | - | 278 |

Source: See text.

Table IV-15

Table IV-15

PANAMA: PROJECTION OF GROSS PRODUCT OF CONSTRUCTION

(Thousands of balboas at 1950 prices)

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Gross product | 14 100 | 37 125 | 163.3 |
| Gross value of some materials utilized | 9 208 | 24 245 | 163.3 |

Source: See text.

where $y$ represents millions of kWh used in business and $x$ the gross product originating in business, expressed in millions of balboas at 1950 prices. The resulting coefficient of correlation was 0.99.

(iii) Industrial consumption. This was estimated by means of a regression function relating the industrial input of electricity to the gross value of certain branches of industry during the period 1945-56. To the projection thus obtained was added the consumption of electricity in metallurgical production, assuming full utilization of capacity - 20 million kWh. The resulting function was: $y = 7.66 + 0.64x$ where $y$ represents millions of kWh used in industrial production and $x$ represents the gross value - expressed in millions of balboas at 1950 prices - of certain manufacturing industries. The coefficient of correlation obtained was 0.76. The following items were excluded from the industrial sector: tomato sauce and paste, evaporated and condensed milk, sugar, hulled rice and cement.

(iv) Governmental and municipal consumption. Again a regression function was determined, the highest correlation being - 0.92 - being obtained from it by relating the consumption of electricity to the classified salaries of

/Table IV-16

Table IV-16

PANAMA: PROJECTION OF GROSS PRODUCT OF ELECTRIC POWER, GAS AND WATER

(Thousands of balboas at 1950 prices)

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Gross product | 5 500.0 | 12 777.0 | 132.3 |
| Total gross value | 7 992.0 | 18 569.0 | 132.3 |
| Electric power production | | | |
| Gross value | 6 837.0 | 17 325.0 | 153.4 |
| Millions of kWh a/ | 131.0 | 332.0 | 153.4 |
| Residential consumption | 40.2 | 77.4 | 92.5 |
| Business consumption | 42.9 | 117.5 | 173.9 |
| Total industrial consumption | 18.0 | 64.6 | 258.9 |
| Petroleum refining | - | 20.0 | - |
| Miscellaneous | 18.0 | 44.6 | 147.8 |
| Governmental and municipal consumption | 9.8 | 17.5 | 78.6 |
| Use of plants | 6.1 | 15.5 | 153.4 |
| Undistributed | 14.0 | 39.5 | 182.1 |
| Gas production | | | |
| Gross value | 882.0 | 882.0 | - |
| Water production | | | |
| Gross value | 273.0 | 362.0 | 32.6 |

Source: See text.

a/ Public utilities only.

/the Public

the Public Administration and the Public Services. The function is: $y = -10.09 + 0.80x$, where $y$ represents the consumption of electricity by the Government and the municipalities of Panama and Colón and $x$ the total real wages paid by the public sector in the public administration and the public services (see tables B-17 and B-18).

(v) Undistributed. This refers to the demand for electricity in the Republic, excluding residential consumption outside the cities of Panama and Colón. In the absence of detailed information it was assumed that this demand would rise proportionately to the demand from business, industry and the Government combined.

On the assumption, finally, of a growth proportionate to the rest of demand in the amount used by the generating plants themselves, a figure for total demand of 332 million kWh in 1966 is obtained. At 1950 prices this would be equivalent to 17.3 million balboas.

(vi) Projection of electric power supply (see table IV-17). In projecting the consumption of crude oil in electric power production, certain assumptions have to be formulated regarding the probable distribution of electric power production by types of generating plant. In 1956 the total installed capacity was 39.2 thousand kW, with an output of 153.8 million kWh. This implies a load factor of about 45 per cent.[14/] In that year the hydroelectric plants had a capacity of about 6,000 kW. According to present plans, before 1966 a number of hydroelectric plants will be established which will increase the installed capacity in this type of plant by some 40,000 kW.[15/]

Assuming that the load factor remains constant for a gross output - including losses - of 389.8 million kWh, a total installed capacity of about 98,900 kW would be necessary in 1966. If it is assumed, in addition, that the load factor of the hydroelectric plants will be about 50 per cent, the output of the latter should be about 201.5 million kWh.

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14/ Load factor = $\frac{\text{Production}}{\text{Capacity x total number of hours in the year}}$

15/ Inter-American Co-operative Service for Economic Development, Panama.

Table IV-17

PANAMA: PROJECTION OF ELECTRIC POWER SUPPLY

| | Capacity (kW) | Production (thousands of kWh) a/ | Load coefficient |
|---|---|---|---|
| | 1956 | | |
| Total | 39 201 | 153 825 | 0.448 |
| Thermoelectric plants | 33 201 | 130 281 | 0.448 |
| Hydroelectric plants | 6 000 | 23 544 | 0.448 |
| | 1966 | | |
| Total | 98 882 | 389 794 | 0.45 |
| Thermoelectric plants | 52 882 | 188 314 | 0.41 |
| Hydroelectric plants | 46 000 | 201 480 | 0.50 |

Source: See text.

a/ Gross production including losses.

The thermoelectric plants should then produce some 188.3 million kWh, an increase of 44.5 per cent as compared with 1956.

(b) Gas

During the period 1945-56 the production of gas showed a distinct downward movement, which went on practically uninterruptedly apart from three years. This was due in large measure to the declining demand from the Canal Zone, a demand which has become practically nil in recent years. Furthermore there are no economic incentives for expanding installations with a view to increasing the supply for the internal market. It is unlikely that present conditions will change, and the best that can be hoped for is the maintenance of the 1956 level of output. Using this hypothesis for the present projection, we obtain an output of 619.2 million

/cubic feet

cubic feet in 1966 with a gross value of 882,000 balboas at 1950 prices.

(c) Water

It is assumed that the per capita consumption will remain constant, in which case the gross value of production should rise to some 362,000 balboas in 1966.

(d) Sectoral projection

The partial projections given above imply a rise in the gross product of electric power, gas and water from 5.5 million balboas in 1956 to 12.8 million balboas in 1966 - an increase of 132.3 per cent.

6. Trade (see table IV-18)

In working out this series for the period 1945-56, a weighted index of the gross product of crop-farming, stock-farming, forestry and fisheries, the manufacturing industries and imports was used.[16/] In calculating the projection the method used was similar, but with some modification. The product of the first of these sectors was increased arbitrarily by 20 per cent in order to allow to some extent for the effect of the increased marketing of the agricultural and livestock output. This produced a figure of 95.6 million balboas for trade in 1966 - an increase of 85.7 per cent over the figure for 1956. It may be observed that the sector should thus increase proportionately to the product, as was its tendency during the period 1946-56.

7. Transport, storage and communications (see table IV-19)

The projection of the gross product of passenger transport was made on the basis of the projection of demand for transport services (see table IV-2). For the purpose of the breakdown between rail, road, sea and air transport, it was assumed that the first and the third forms of transport would be substituted to a substantial extent by the second and fourth, and the figure for passenger transport by rail and sea in 1966 was left at the 1956 level. The entire increase in passenger transport was divided proportionately between road and air transport.

The projection of freight transport was calculated on the basis

16/ See appendix B, section A.2.f, table B-14).

Table IV-18

PANAMA: PROJECTION OF GROSS PRODUCT OF TRADE

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Gross product | 51.5 | 95.6 | 85.7 |
| Total value of imports and of manufacturing and agricultural production (net) | 182.7 | 339.3 | 85.7 |
| Imports | 90.0 | 125.6 | 39.6 |
| Manufacturing product | 35.3 | 73.7 | 108.8 |
| Agricultural production (net) | 57.4 | 140.0 | 143.9 |
| Total | 80.2 | 138.5 | 72.7 |
| Minus banana and cacao production for export | 19.5 | 26.3 | 34.9 |
| Minus fish exports | 3.3 | 4.5 | 36.4 |
| Plus adjustment | - | 32.3 | - |

Source: See text.

of the combined growth of agricultural and industrial production, the former sector being adjusted by the method outlined in the case of trade. It was again assumed that there would be a substitution of rail and sea transport by road transport. The 1956 figure for freight transport by rail was therefore retained, and of the remaining volume of goods it was assumed that 75 per cent would be carried by road and the rest by sea.

Communications services to the private sector - telephone, cable and other such services - were estimated on the basis of the projection of the demand for communications services (see table IV-2), and communications services to the public sector - mail and telegraph - were estimated on the basis of the projection of the wages component in public expenditures.

/Table IV-19

Table IV-19

PANAMA: PROJECTION OF GROSS PRODUCT OF TRANSPORT, STORAGE AND COMMUNICATIONS

(Thousands of balboas at 1950 prices)

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Gross product of the sector | 17 084 | 29 936 | 75.2 |
| Total transport | 13 888 | 24 314 | 75.1 |
| Total passenger transport | 9 866 | 15 115 | 53.2 |
| Rail | 96 | 96 | - |
| Road | 6 513 | 10 175 | 56.2 |
| Sea | 437 | 437 | - |
| Air | 2 820 | 4 407 | 56.3 |
| Total freight transport | 4 022 | 9 199 | 128.7 |
| Rail | 55 | 55 | - |
| Road | 1 857 | 6 858 | 269.3 |
| Sea | 2 110 | 2 286 | 8.3 |
| Total communications | 2 055 | 3 366 | 63.8 |
| Private | 651 | 1 160 | 78.2 |
| Official | 1 404 | 2 206 | 57.1 |
| Total storage | 1 141 | 2 256 | 97.7 |
| Free Zone of Colón | 1 044 | 2 088 | 100.0 |
| Miscellaneous | 97 | 168 | 73.2 |

**Source**: See text.

/The product

The product of the Colón Free Zone was estimated from the projections of the capacity to import.[17] The balance of storage services was projected on the basis of the growth in the other items in the sector.

The combination of the above partial projections gives a total of 29.9 million balboas at 1950 prices - an increase of 76 per cent over 1956.

8. Banking, insurance and real estate (see table IV-20)

The method used here was similar to that employed in calculating the series for the product of this sector.[18] The gross value of banking services was projected on the basis of the estimated growth in the trade sector. As regards the gross value of premiums of insurance companies, it was assumed that up to 1966 these will grow proportionately to the gross product. Finally, for the gross value of administrative services connected with real estate the percentage increase resulting from the projection of the product of the housing sector was used (see table IV-21).

9. Housing (see table IV-21)

Use was made of the percentage increase resulting from the projection of demand under the head of rents and water consumption (see table IV-2).

10. Public administration

It was assumed that the product of this sector would increase proportionately to total public expenditure under the heads of consumption and investment (see sections II.2 and IV of this chapter).

11. Services (see table IV-22)

The same items were used here as were used in the construction of the series for the period 1945-56. The items medical and sanitary services, domestic services, public entertainment, private education, hotels, restaurants and recreational services were estimated on the basis of the percentage increases shown by the projections of consumer demand for these services (see table IV-2). The item "Other services" was calculated on the basis of the percentage increase in the weighted projections of demand for "miscellaneous expenditure", "personal care" and "other services".

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17/ See chapter III, section III.2.

18/ See appendix B, section A.2.g, table B-15.

Table IV-20

PANAMA: PROJECTION OF GROSS PRODUCT OF BANKING, INSURANCE AND REAL ESTATE

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Total | 7.7 | 14.0 | 81.8 |
| Banking | 4.6 | 4.5 | 85.7 |
| Insurance | 2.4 | 4.5 | 85.7 |
| Real estate | 0.7 | 1.0 | 46.2 |

Source: See text.

Table IV-21

PANAMA: PROJECTION OF GROSS PRODUCT OF THE HOUSING SECTOR

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Gross product (thousands of balboas at 1950 prices) | 35 617.0 | 52 072.0 | 46.2 |
| Housing inventory (thousands) | 220.5 | 322.4 | 46.2 |
| Housing constructed (thousands) | 7.4 | 12.9 | 75.6 |

Source: See text.

/Table IV-22

Table IV-22

PANAMA: PROJECTION OF GROSS PRODUCT OF THE SERVICES SECTOR

(Thousands of balboas at 1950 prices)

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Gross product of the sector | 53 930 | 93 208 | 72.8 |
| Private services | 31 913 | 57 706 | 80.8 |
| Medical and sanitary | 2 518 | 4 029 | 60.0 |
| Domestic | 9 261 | 14 967 | 61.6 |
| Entertainments etc. | 1 703 | 3 342 | 96.2 |
| Architectural and engineering | 321 | 846 | 163.6 |
| Private education | 1 581 | 2 471 | 56.3 |
| Hotels | 834 | 2 155 | 158.4 |
| Restaurants | 2 146 | 3 290 | 53.3 |
| Other services | 4 200 | 6 492 | 54.6 |
| Legal | 1 411 | 2 204 | 56.2 |
| Hairdressing and beauty salons | 958 | 1 437 | 50.0 |
| Gardening and photography | 894 | 1 398 | 56.4 |
| Laundries | 937 | 1 453 | 55.1 |
| Bars and cabarets | 6 620 | 15 180 | 129.3 |
| Indirect taxes | 2 729 | 4 934 | 80.8 |
| Public services | 22 017 | 35 502 | 61.2 |
| Police, health and education | 17 461 | 27 433 | 57.1 |
| Entertainment, racing | 227 | 445 | 96.0 |
| Entertainment, lotteries | 1 843 | 3 616 | 96.2 |
| Depreciation, governmental | 2 486 | 4 008 | 61.2 |

Source: See text.

/The weights

The weights used were 22.3, 22.8 and 54.9 per cent respectively. The estimate for architectural and engineering services was made on the basis of the percentage increase shown by the projection of the product of construction. The item "bars and cabarets" was estimated on the basis of the percentage increase shown by the projections of the quantum of tourism and the consumption of alcoholic beverages, combined. As regards police, health and education services, it was assumed that these would expand proportionately with the increase in wages in the public sector. Lastly, it was assumed that indirect taxes and depreciation would grow proportionately to private and public services respectively.

12. Services to Panama Canal Zone (see chapter III, section IV.2,3 and 4)

13. Synthesis of sectoral projections

Tables IV-23 and IV-24 sum up the projections made in this chapter, the first referring to the gross product by sectors and the second to the structure of imports. Both clearly reveal the magnitude of the growth effort which would be needed if it were decided to attempt to raise the standard of living of the Panamanian people at a rate of 2 per cent annually. In view of the limited prospects for the growth of the capacity to import - and the need to maintain the external balance - imports could only be raised from 103.9 million balboas in 1956 to 133.6 million balboas in 1966. This is an increase of barely 28.6 per cent and is thus below the probable demographic growth. To raise the standard of living of the population to the extent postulated, domestic production will therefore have to expand at a very high rate; the gross product would have to rise by 85.7 per cent between 1956 and 1966, an annual rate of 6.4 per cent. But this, in turn, would necessitate a substantial increase in essential imports of capital goods and raw materials and fuels. Given the increase in gross product just indicated, these imports would have to rise by 122.9 and 121.8 per cent respectively. Even if an effort were made to substitute some part of these imports of goods essential to growth, the volume of imports of both categories of goods would more than double. As has been said, however, total imports can be expanded by only 28.6 per cent; thus it is clear that the third category of imports - consumer articles - must decline, the projections indicating that they should fall

Table IV-23

PANAMA: PROJECTION OF GROSS PRODUCT

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Total | 325.5 | 604.4 | 85.7 |
| Crop and stock-farming, forestry and fisheries | 80.2 | 138.5 | 72.7 |
| Manufacturing industry | 35.3 | 73.7 | 108.8 |
| Construction a/ | 14.1 | 37.1 | 163.3 |
| Electricity, gas and water | 5.5 | 12.8 | 132.2 |
| Transport, storage and communications | 17.0 | 29.9 | 75.2 |
| Wholesale and retail trade | 51.5 | 95.6 | 85.7 |
| Banking, insurance and real estate | 7.7 | 14.0 | 81.8 |
| Housing | 35.6 | 52.0 | 46.2 |
| Public administration | 4.6 | 10.2 | 120.7 |
| Public and private services | 53.9 | 93.1 | 72.8 |
| Services to the Canal Zone | 20.1 | 17.5 | -12.9 |
| Undistributed b/ | - | 30.0 | |

Source: See text, section V.

a/ Including mines and quarries.

b/ Difference between the aggregate projection of the gross product (table II-8) and the projection of the gross product by sectors (chapter IV).

from 57.4 million to 44.2 million balboas (a contraction of 34 per cent). The structure of imports should thereby change radically, the proportion of consumer goods, more than two thirds of the total in 1956, falling to one third in 1966.

The glaring contrast between the absolute decline in imports of consumer goods and the objective of raising private consumption by

/Table IV-24

Table IV-24

PANAMA: PROJECTION OF QUANTUM OF IMPORTS

(Millions of balboas at 1950 prices)

| | 1956 | 1966 | Percentage increase |
|---|---|---|---|
| Total | 103.9 | 133.6 | 28.6 |
| Consumer goods | 67.4 | 44.2 | -34.4 |
| Intermediate goods | 23.4 | 51.9 | 121.8 |
| Capital goods | 13.1 | 29.2 | 122.9 |
| Undistributed a/ | - | 8.3 | - |

Source: See text.

a/ Difference between the aggregate projection of imports (table II-8) and the projection of demand and import substitution by categories of goods (chapter IV).

than 60 per cent between 1956 and 1966 implies a vigorous process of substitution of consumer goods of external origin by domestic production. Consequently, the sectors producing goods will have to develop very rapidly. This applies to the agricultural sector - which should grow by 73.7 per cent - and above all to the industrial sector. The latter should more than double thus considerably increasing its share in the gross product. This will not be possible, however, unless the basic sectors of the economy expand to the extent necessary. In response to this need, the power sector would have to multiply 2.3 times and construction more than two and a half times, in view of the deficiency of basic social capital characteristic of Panama's economy. Transport, storage and communications should expand by 75.2 per cent, a relatively modest increase. Freight transport on the other hand, will need to expand almost 2.3 times.

Most of the services sectors will continue to decline in relative importance in Panama's economic activity. The most striking case is that of the Canal Zone, which, unlike all the other productive activities, will decline in absolute terms. Public administration, on the other hand, will increase by 120.7 per cent, in view of the decisive part the public sector will have to play in the coming decade if the processes of growth and structural change just outlined are to be achieved.

# APPENDIXES

## APPENDIX A

## DEFINITION OF THE CONCEPTS USED

In this appendix definitions are given of the concepts used in chapter I. Since the aim is to assess the changes that have taken place in real availabilities of goods and services - aggregate supply - and in the various sectors which compete for them - aggregate demand -, all magnitudes are expressed in currency units of constant purchasing power, i.e., balboas at 1950 prices (see table A-1).

### I. AGGREGATE DEMAND

Aggregate demand is the sum of the following items: private consumer expenditure, Government (or public) consumer expenditure, gross public and private investment and the capacity to import (or current income from external sources).

1. Private consumer expenditure

This item comprises the total expenditure on consumer goods and services of persons permanently resident in Panama. It represents the difference between total purchases of final consumer goods and services effected in Panama by all persons and institutions, and those effected by individuals and institutions not considered as "persons permanently resident in the country", namely, the Government; visitors from abroad, tourists and foreign diplomats; shipping in transit; and persons and agencies domiciled in the Panama Canal Zone. It covers consumer expenditure in the Panama Canal Zone by permanent residents of Panama. Owing to the method of calculation applied, the value of changes in inventories of consumer goods is also included under this head.

2. Public consumer expenditure

This item is constituted by the value of purchases of goods and services - excluding investment goods and transfers - effected by the Government, the National Lottery (Lotería Nacional de Beneficencia), the National Racecourse (Hipódromo Nacional), the University of Panama, the Social Security Fund (Caja de Seguro Social) and the Municipalities of the Republic. Other official entities, such as the Ferrocarril Nacional de Chiriquí, the Institute of Economic Development (Instituto de Fomento Económico), the Banco Nacional de Panamá and the Free Zone of Colón, are

accorded the same treatment as private enterprises, and their purchases of goods and services are therefore classified as intermediate instead of as final consumer expenditure.

3. Gross investment

Gross investment covers the value of constructions and buildings, the purchase and installation of machinery and equipment and the value of changes in inventories of cattle and pigs and in banana plantations. It therefore differs from the broader sense of the term since, for want of the relevant data, it does not include the value of accumulated stocks of intermediate and consumer goods. This item as a whole is equivalent to gross fixed capital formation.

4. Public investment

Public investment includes total investment outlays by all the official bodies mentioned in paragraph 2 of this appendix, and by the other official entities classified as public enterprises, i.e., the Ferrocarril Nacional de Chiriquí, the Institute of Economic Development, the Banco Nacional de Panamá and the Free Zone of Colón.

5. Private investment

Private investment is the expenditure of private enterprises and individuals on the purchase of capital goods. It is obtained by subtracting gross public investment from total gross investment.

6. Capacity to import

The capacity to import relates to all forms of external demand which exert pressure on Panama's productive resources. It is the sum total of those receipts accruing from external sales of goods and services that can be used for the financing of imports. For the real external purchasing power of these resources to be determined, they must be expressed in terms of the relationship between export and import prices of goods and services. The method of estimating the capacity to import, therefore, is to obtain the product of the quantum of exports of goods and services and the terms of trade. The following formulae will help to clarify these concepts:

/(1) Capacity

(1) Capacity to import = Terms-of-trade index x Quantum of exports

(2) Terms-of-trade index = $\frac{\text{Index of unit value of exports}}{\text{Index of unit value of imports}}$

(3) Quantum of exports = $\frac{\text{Current values of exports}}{\text{Index of unit value of exports}}$

The foregoing definitions give the formula generally used for estimating the capacity to import:

(4) Capacity to import = $\frac{\text{Current values of exports}}{\text{Index of unit value of imports}}$

It was this last formula that was utilized for calculating all items constituting the capacity to import (except the item "visitors from abroad"), namely: exports and re-exports of merchandise, payments to Panama by enterprises operating in the Free Zone of Colón, sales to shipping and aircraft in transit, expenditure of foreign diplomats resident in Panama and sales of goods and services to the Panama Canal Zone.

In the special case of the capacity to import generated by visitors from abroad - i.e., total foreign exchange earnings under this head in terms of their external purchasing power - the procedure employed entailed direct calculation of the export quantum and price index. The capacity to import was therefore obtained by applying the following formula:

Capacity to import deriving from visitors from abroad =

$$\frac{\text{Quantum of expenditure of visitors from abroad x Index of export prices}^{1/}}{\text{Index of unit value of imports}}$$

## II. AGGREGATE SUPPLY

Aggregate supply is the sum of the value of both domestically-produced and imported goods and services available for consumption, investment and export. It therefore represents the gross product plus the quantum of imports. For any given period, the sole difference between aggregate demand and aggregate supply lies in the positive or negative terms-of-trade effect.

1/A special price index for sales of goods and services to visitors from abroad is referred to here (see table B-43).

/In practice

In practice, owing to the limitations of the statistical information, there is an unwarranted discrepancy between aggregate demand and aggregate supply. This difference is termed "statistical discrepancy".

1. Gross product

The gross product may be defined as the value at 1950 market prices of all goods and services produced within the national territory in the course of a year. Although in Panama's case that part generated in the Panama Canal Zone should be included in the national gross product as thus defined, it is excluded here on account of the special status of the latter territory and the difficulty of obtaining the necessary data. Nevertheless, in so far as the Canal Zone represents an economic activity for a sector of Panama's active population, it must be incorporated into the gross product of Panama. Consequently, the quantum of gross remuneration paid in the Panama Canal Zone to workers and employees resident in territory under the jurisdiction of Panama is included in the latter's gross product, and constitutes the sector of activity termed "Services rendered to the Panama Canal Zone".

2. Imports

This item covers total goods and services brought in from external sources to swell availabilities of goods and services on the domestic market. It therefore excludes expenditure of Panamanian tourists abroad, which cannot be considered as contributing to the internal supply of goods and services. On similar grounds, imports for the Free Zone of Colón have not been incorporated, but only those brought from that zone into territory under the jurisdiction of the Republic of Panama.

The Panama Canal Zone, owing to the special characteristics noted above, has had to be regarded, for purposes of the analysis, as external territory. Purchases effected in the Canal Zone markets by residents of Panama have therefore been taken in conjunction with imports from foreign sources.

/Table A-1

Table A-1

PANAMA: AGGREGATE DEMAND AND SUPPLY

(Millions of balboas at 1950 prices)

| | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aggregate demand | 361.1 | 388.2 | 360.9 | 337.1 | 338.1 | 350.7 | 350.7 | 369.8 | 384.1 | 407.1 | 432.5 | 447.2 |
| Private consumption | 164.3 | 191.8 | 206.2 | 188.5 | 194.4 | 212.6 | 221.7 | 232.4 | 230.4 | 242.1 | 256.8 | 264.4 |
| Private investment | 22.0 | 30.5 | 29.7 | 31.2 | 26.6 | 19.9 | 21.9 | 23.9 | 32.1 | 33.6 | 35.9 | 36.2 |
| Public expenditure | 43.1 | 42.3 | 41.2 | 34.1 | 31.2 | 40.2 | 37.2 | 41.8 | 43.1 | 46.1 | 47.3 | 54.3 |
| Capacity to import | 131.7 | 123.7 | 83.8 | 83.3 | 86.0 | 78.0 | 70.0 | 71.7 | 78.5 | 85.3 | 92.5 | 92.4 |
| Aggregate supply | 351.5 | 372.8 | 373.5 | 333.9 | 330.9 | 338.7 | 341.9 | 365.9 | 380.5 | 394.2 | 412.7 | 429.4 |
| Gross product | 264.8 | 269.0 | 269.7 | 251.8 | 252.8 | 258.3 | 262.2 | 276.9 | 293.2 | 300.3 | 314.7 | 325.5 |
| Imports | 86.7 | 103.8 | 103.8 | 82.1 | 78.1 | 80.4 | 79.7 | 89.0 | 87.3 | 93.9 | 98.0 | 103.9 |
| Difference between demand and supply | 9.6 | 15.4 | -12.6 | 3.2 | 7.2 | 12.0 | 8.8 | 3.9 | 3.6 | 12.9 | 19.8 | 17.8 |
| Terms-of-trade effect | -4.1 | 6.1 | -9.0 | -7.8 | -2.3 | 0.0 | -1.7 | -4.0 | 1.2 | 8.5 | 9.8 | 6.3 |
| Statistical discrepancies | 13.7 | 9.3 | -3.6 | 11.0 | 9.5 | 12.0 | 10.5 | 7.9 | 2.4 | 4.4 | 10.0 | 11.5 |

Source: Tables B-31, B-32, B-27, B-37, B-1, B-21.

# APPENDIX B

## SOURCES AND METHODS USED IN THE MACRO-ECONOMIC STATISTICAL SERIES *

### A. SERIES OF THE TERRITORIAL GROSS PRODUCT AT 1950 MARKET PRICES (table B-1)**

The gross product series was worked out on the basis of a direct estimate for the year 1950, which was adjusted by application of a physical production index in order to obtain the series for 1945-56.

1. Territorial gross product at 1950 market prices (table B-2)

A direct estimate of the net territorial product at factor cost, by sectors, for the year 1950, had been made by the Statistical and Census Department (Dirección de Estadística y Censo) with the help of a United Nations expert. 1/ This estimate was modified in the light of later information, as follows:

(a) Agriculture, forestry and fishing (table B-3, A)

(i) Agriculture (crops). The calculation of the gross value of production in this sector embraced all the products covered in the 1950 Agricultural Census, 2/ including the agricultural production of the indigenous zones, 3/ with an estimate of the value of products not covered by the census and of production in farms of less than 1 hectare, these data not having been recorded.

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* The production series relating to individual enterprises are published by special permission to the Statistical and Census Institute of the enterprises concerned.

** All the tables mentioned are to be found at the end of this appendix.

1/ The national income and national accounts of the republic of Panama: 1944-52, prepared for the Panama Government by Dr. H. Ryken Van Olst, United Nations expert on national income (Technical Assistance Administration).

2/ Statistical and Census Department, Primer Censo Agropecuario, Volume I, Producción (Panama, 1950).

3/ Statistical and Census Department, Panama, 1950, Quinto Censo de Población, Volume IV, Población indígena.

/From the

From the figures for physical production under the various heads a certain proportion was deducted to allow for amounts used for seed, spoiled before arrival on the market or consumed by the producer. 4/ The adjusted figures for physical production were valued at farm prices in accordance with the results of a survey of agricultural commodity prices made at the same time as the agricultural census.

Other sources 5/ had to be used to obtain the prices of potatoes, avocado pears, yucca and yams and of export products (bananas, cacao and abaca).

(ii) Agriculture (livestock). The calculation of the gross value of production in this sector included: beef cattle, pigs, hens, eggs, milk and cheese. For beef cattle, slaughtering data (Estadística Panameña) 6/ were used and for valuation purposes the average of the prices for bulls, steers, oxen, and cows and heifers (both for slaughter and milking) was taken from the survey of farm prices. The estimated value of inventory changes for beef cattle was based on the 1950 census figure and on an assessment of 1949 inventories made in the light of the relationship between cattle population and slaughtering in 1950. The physical change in inventories was valued on the basis of the price survey.

The gross value of pig production was obtained by methods identical with those employed for beef cattle. The gross value of poultry production was worked out as follows: the total sales recorded in November 1950 at the time of the Agricultural Census were trebled in order to obtain an estimate of sales in the fourth quarter. Quarterly data supplied by

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4/ The proportions were obtained from the table Consumo alimenticio total y per capita de la población civil de Panamá (1954) compiled by Dr. Menalco Solís of the Servicio Interamericano de Cooperación Agrícola en Panamá (SICAP), under column headed "Desperdicio de la finca al mercado" ("Waste between the farm and the market").

5/ Farm prices during 1953 obtained by SICAP. For export products, prices revalued in accordance with the method used by the International Monetary Fund and with data from the Statistical and Census Department, Balanza de Pagos de Panamá.

6/ Estadística Panameña, regular publication issued by the Contraloría General de la República, Statistical and Census Department. Will be quoted hereinafter under that title.

the excise authorities in respect of poultry consignments to Panama City (Estadística Panameña) were used to calculate an index for the seasonal variations in quarterly sales. By means of this index and the estimate of sales during the fourth quarter annual sales were worked out. The prices were obtained from the source already mentioned.

The same procedure was followed for estimating the gross value of egg, milk and cheese production.

(iii) Forestry. In order to estimate the gross value of production in this sector, a calculation was made of wood sawn in 1950. This was based on the number of persons employed in this activity according to the 1950 census 7/ and on the ratio between output and labour force in 1955 and 1956, as obtained from the Statistical and Census Department's regular industrial surveys. The total amount of sawn wood was converted into its equivalent in logs by means of a coefficient of loss estimated on the basis of data supplied direct by a number of firms. The physical production thus obtained was valued on the basis of a price average also obtained by direct enquiry.

(iv) Fishing. Information is available on fishing in the Gulf of Panama (Estadística Panameña). The fish catch in the remainder of the republic (except shrimp, which is caught almost exclusively in the Gulf of Panama) was estimated on the basis of the distribution of the labour force employed in fishing (Population Census). Shrimp exports and fish for domestic consumption were calculated by means of unit values obtained from the total values declared in each case by fishermen (Estadística Panameña).

(v) Estimate of gross value added at market prices. The value of the intermediate products used as inputs in the agriculture, forestry and fishing sector was deducted from the gross value of the output of this sector. The results of a survey previously carried out by the Statistical and Census Department were employed.

7/ Statistical and Census Department, Quinto Censo de Población, Volume III, Características económicas (Panama, 1950).

/(b) Manufacturing

(b) Manufacturing (table B-3, B)

The estimate of the gross product of manufactures was based on an enquiry into the operations of about 3,600 undertakings carried out by the Statistican and Census Department. To calculate the net product of the sample survey, the statements of income for 1950 submitted by these undertakings to the General Internal Revenue Department (Administración General de Rentas Internas) were used. This figure was expanded to the total industrial sector by establishing a ratio between the aggregate manufacturing payroll (Population Census) and the payroll of the undertakings included in the sample. In order to complete the estimate of the industrial product, an average net income for self-employed and family workers was assumed (Population Census).

For the purpose of calculating depreciation, the ratio between depreciation and the net manufacturing product observed in 1954 was used in the light of the national income research carried out by the Statistical and Census Department.

(c) Construction (table B-3, C)

This heading covers the mining and quarrying sector and construction proper.

(i) Mining and quarrying. An estimate was made of the ratio between the net product and the payroll of mining and quarrying enterprises for the years 1953 and 1954, in the light of the national income research carried out by the Statistical and Census Department. An average for those two years was obtained and applied to the payroll in 1950 of the enterprises concerned. The net product for that year was thus obtained.

As in the manufacturing sector, a net average income was assumed for self-employed and family workers engaged in mining and quarrying (Population Census). Depreciation also was calculated in the same way: the proportion between depreciation and the net product observed in the 1953 and 1954 surveys was applied to the net product for 1950.

(ii) Construction. The starting-point used for assessing the gross product of private construction was the total payroll in this

/sector according

sector according to the Population Census. From this figure was deducted the Government construction payroll, obtained from the break-down of public expenditure prepared by the Contraloría General de la República. To the figure thus obtained was applied the average ratio between the gross product and payroll in 1955 and 1956, based on the national income studies for those years. Finally, the income of self-employed and family workers (taken from the Population Census, to whom a fixed net average income was assigned, was added.

(d) Electric power, gas and water (table B-3, D)

The procedure used was similar to that employed for calculating the manufacturing product. Adjustments for the income of self-employed and family workers were unnecessary, their number being insignificant.

(e) Transport, storage and communications (table B-3, E)

The procedures employed were similar to those used for estimating the product of the mining and quarrying sector. Depreciation was calculated by establishing a ratio between the depreciation and the net product recorded in 1954 according to the national income studies.

(f) Trade (table B-3, F)

The method used for estimating the gross product in this branch of activity was similar to that adopted for the manufacturing sector. However, in this case the payroll of the enterprises which submitted income-tax returns was practically equal to that of the whole branch, according to the 1950 Population Census. Hence no adjustments were necessary.

(g) Banking, insurance and real estate (table B-3, G)

The survey of enterprises which submitted tax returns practically covered all the establishments in this branch. The product was therefore calculated directly on the basis of these returns.

(h) Housing (table B-3, H)

The aggregate rental for 1950 was obtained from the Housing Census. 8/ An estimate of the rental corresponding to self-owned and ub-let

8/ Statistical and Census Department, Primer Censo de Vivienda, Volume I, Características de la vivienda (Panama, 1950).

/dwellings was

dwellings was made on the basis of the average rents of equivalent rented dwellings, classified by number of rooms and location in urban or rural areas. In order to obtain the value added figures from the gross rent figures, 40 per cent was deducted in respect of gross rents for rooms, and 25 per cent in respect of gross rents for apartments or other rented property. 9/

Depreciation in this branch was worked out as a percentage of total investment, which in its turn was estimated on the assumption that net rents during the year represent a given rate of profit.

(i) Private services (table B-3, K)

(i) Medical and sanitary services. The emoluments of physicians employed on a salary basis were taken from the 1950 Population Census. For independent physicians, an average net income equal to the emoluments of employed physicians was assumed. In order to complete the gross product in this sub-sector, wages and rents paid by independent physicians were added to the above data.

To estimate the total of these payments, the ratio between net income and expenditure in respect of wages and rents for such physicians was obtained on the basis of the national income studies carried out for 1955, and this coefficient was applied to the total net income of independent physicians.

In the case of private hospitals, the daily average number of patients was multiplied by the estimated mean daily expenditure and by the number of days in the year. 10/ From this gross value a percentage was deducted for inputs, estimated on the basis of national income studies for 1955.

9/ Under Panamanian law it is permissible to include in sworn income tax returns up to 35 per cent and 20 per cent respectively of the income derived from the rent of rooms and apartments, on account of maintenance and depreciation. In the calculations, larger percentages were taken so as to allow for other costs such as taxes, water, insurance, etc.

10/ Isidore I. Falk, Health in Panama, a survey and a program, appendix table 15 - The hospitals of Panama - Private.

/(ii) Legal services.

(ii) Legal services. The procedure used was similar to that employed for the calculation of medical services.

(iii) Hairdressing and beauty salons. Same procedure as that used for medical and legal services.

(iv) Domestic services. The data on average wages (Population Census) were expanded to include non-monetary incomes.

(v) Services to the public. This heading covers services of photographers and gardeners. The method used to estimate the product of this sector was similar to that employed in the calculations for legal and medical services and hairdressing and beauty salons.

(vi) Films and other public entertainments. The value of total sales was obtained by multiplying the number of tickets sold (according to the register kept by the Banco Nacional of stamp taxes paid by theatres and places of public entertainment) by the average price of such tickets estimated on the basis of their break-down by value ranges. The gross product was estimated on the basis of the ratio between the gross product and the value of sales observed in the national income studies carried out in 1955.

(vii) Trade services. These are services rendered to individuals by architects and engineers. The method followed was the same as that used for legal services.

(viii) Private education. The gross value was estimated on the basis of the number of enrolments at each educational level (Estadística Panameña) and the average enrolment fees and monthly payments by levels, obtained by direct enquiry. An amount for inputs was then deducted in the light of recent studies on national income.

(ix) Other services. The gross product of hotels and boarding houses, restaurants, laundries and laundry services was estimated on the basis of the average income of employees, employers and workers engaged exclusively in these occupations. These net earnings were assessed on the basis of information obtained in the Population Census.

/(j) Services to

(j) Services to the Panama Canal Zone (table B-3, J)

These are labour services rendered to companies and agencies in the Panama Canal Zone. Three separate categories were taken into account: (1) Wages of regular employees of the Panama Canal Company and of the various auxiliary services of the United States armed forces stationed in the Canal Zone; (2) Wages of casual employees and sales of various services to the above agencies; (3) Wages paid to employees by Panamanian contractors carrying out works for Canal Zone agencies.

(i) Wages of regular employees. Source: Statistical and Census Department.

(ii) Sales of services to Canal Zone agencies. The Statistical and Census Department has a series on total sales (goods and services) to such agencies and a break-down of these sales between goods and services, but this covers only the year 1956. Throughout the entire series it was assumed that the ratio between these two components was the same as in 1956.

(iii) Wages of contractors' employees. The Statistical and Census Department has data on these wages for the years 1952-56. The figure for 1945 was extracted from the Weaver report. 11/ Little variation was observed in the ratio between these wages and those of regular employees in the two periods, and a constant ratio was assumed for the period 1946-51.

(k) Public sector 12/ (table B-3)

To obtain the share of the public sector (with the exception of public enterprises) in the territorial product, the payroll for the sector

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11/ Findley Weaver, 1946, Panama's receipts from the Canal Zone in relation to her foreign trade and national income.

12/ Including the Government proper (budget of revenue and expenditure), the National Lottery, National Racetrack, University of Panama, Social Security Fund, municipalities, Ferrocarril Nacional de Chiriquí and the official banks in existence in 1950.

/was broken

was broken down by branch of economic activity. The contribution of Government enterprises was calculated by the same method as that used for working out the gross product of private enterprises

The branches of economic activity in which the Government participates are as follows: agriculture (crops and livestock), hunting and fishing, manufacturing, construction, electricity, gas and water, transport, storage and communications, banking, insurance and real estate, public administration and services. For depreciation, the estimate used in the original calculation was employed again, there being no better sources on which to base it. The statistical sources are set forth under public consumption, in section C.1.

(1) Indirect taxes

The above explanations relate to the gross territorial product at factor cost. To express this concept in terms of market prices it was necessary to break down all the indirect taxes levied by the central Government and the municipalities [13/] by branch of economic activity and to add these figures to the gross territorial product obtained for each branch of activity.

2. Series showing gross territorial product at 1950 prices, 1945-56 (base 1950 = 100) (table B-4)

The general index represents the weighted average of the indices of the gross product of each sector. The weights used were the values added of each branch of activity.

(a) Agriculture, forestry and fishing (tables B-5 and B-6)

The index for this sector was constructed by combining six sub-indices: (1) crop production for domestic consumption; (2) crop production for export; (3) livestock; (4) forestry; (5) fishery products for domestic consumption; (6) fishery products for export.

The sub-indices were weighted in accordance with the respective gross values of production for 1950. The individual products in their turn were weighted by their respective gross values for that same year.

13/ Source: Reports issued by the Contraloría General de la República and by the municipalities.

/The sources

The sources and methods used in preparing the physical production series will be found in the notes to the table below. The losses through deterioration of the product before arrival on the market or through consumption by the producer, as also reserves for seed, were deducted from the production figures. 14/

Sources and methods used in preparing the production series for agriculture, forestry and fishing

| | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crop production for domestic consumption: | | | | | | | | | | | | |
| Rice | (1) | (1) | (1) | (1) | (2) | (3) | (4) | (4) | (4) | (4) | (4) | (4) |
| Maize | (1) | (1) | (1) | (1) | (1) | (3) | (4) | (4) | (4) | (4) | (4) | (4) |
| Beans | (1) | (1) | (1) | (1) | (1) | (3) | (2x4) | (4) | (4) | (4) | (4) | (4) |
| Potatoes | (1) | (1) | (1) | (1) | (1) | (3) | (5) | (5) | (5) | (5) | (5) | (5) |
| Sugar-cane | (1) | (1) | (1) | (1) | (2) | (3) | (5) | (5) | (5) | (5) | (6) | (6) |
| Coffee | (1) | (1) | (1) | (1) | (2) | (3) | (4) | (4) | (4) | (4) | (4) | (4) |
| Tobacco | (7) | (7) | (7) | (7) | (7) | (3) | (7) | (7) | (7) | (4) | (7) | (7) |
| Tomatoes | (5) | (5) | (5) | (5) | (5) | (3) | (5) | (5) | (4) | (4) | (2) | (5) |
| Cabbage | (5) | (5) | (5) | (5) | (5) | (3) | (5) | (5) | (4) | (5) | (8) | (8) |
| Bananas | (9) | (9) | (9) | (9) | (9) | (3) | (9) | (9) | (9) | (4) | (9) | (9) |
| Crop production for export: | | | | | | | | | | | | |
| Bananas | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) |
| Abaca | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) |
| Cacao | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) | (10) |
| Livestock: | | | | | | | | | | | | |
| Beef cattle | (11) | (11) | (11) | (11) | (11) | (11) | (11) | (11) | (11) | (11) | (11) | (11) |
| Pigs | (11) | (11) | (11) | (11) | (11) | (11) | (11) | (11) | (11) | (11) | (11) | (11) |
| Forestry: | (12) | (12) | (12) | (12) | (12) | (12) | (12) | (12) | (12) | (12) | (12) | (12) |
| Fish for internal consumption: | (13) | (13) | (13) | (14) | (14) | (14) | (14) | (14) | (14) | (14) | (14) | (14) |
| Fish for export: | (15) | (15) | (15) | (15) | (15) | (16) | (16) | (16) | (16) | (16) | (16) | (16) |

14/ The coefficients were obtained from the table headed "Consumo alimenticio total y per capita de la población civil de Panamá", año 1954 ("Aggregate and per capita foodstuffs consumption of the civilian population of Panama", 1954), prepared by Dr. Menalco Solís (SICAP).

/Explanatory notes

Explanatory notes

(1) Estimates by the Ministry of Agriculture Trade and Industry, Agricultural Economy Department (División de Economía Agrícola del Ministerio de Agricultura, Comercio e Industrias).

(2) Arithmetic mean of production in the previous and subsequent year.

(3) Statistical and Census Department, Censo Agropecuario de 1950.

(4) Results of the annual agricultural surveys conducted by the Statistical and Census Department. Includes adjustments for estimates of production in the provinces of Bocas del Toro and Darién and in the indigenous areas not covered by the surveys.

(5) Estimate based on figures for consignments of products to Panama City registered at excise offices and on the ratio between production and such consignments in 1950. Statistics on consignment to Panama City are taken from Estadística Panameña.

(6) Estimate based on sugar output and on the ratio between the production of sugar-cane and of sugar during the period 1950-54. Data on sugar production taken from Estadística Panameña.

(7) Estimate based on very preliminary direct observation.

(8) Arithmetic mean of production in 1953 and 1954.

(9) Estimate based on banana exports and on the average ratio between production and exports recorded during 1950 and 1954. Data on exports from Estadística Panameña.

(10) Estadística Panameña.

(11) Estadística Panameña, series on slaughterings.

(12) Production series for sawn wood. See below, section 2(b), "Manufacturing".

(13) Figures estimated on the basis of the trend during subsequent years.

(14) Data on fishing in the Gulf of Panama: Estadística Panameña. In the remainder of the Republic: estimate based on fishing in the Gulf of Panama and the break-down of the population engaged in fishing (1950 Population Census).

(15) There were no exports.

(16) Fish and exports of shrimps and prawns caught in the Gulf of Panama: Estadística Panameña.

/(b) Manufacturing

(b) Manufacturing (tables B-7 and B-8)

The index for this sector was constructed on the basis of the production series for the articles listed below, weighted by their respective gross values of production in 1950. These values were obtained by multiplying physical production by the prices received by producers.

The sources and methods of estimation are given in the following table:

Sources and methods used for the manufacturing series

| Products included | Production series | Prices during the base year |
|---|---|---|
| Evaporated milk | (1) | (9) |
| Condensed milk | (1) | (9) |
| Tomato paste | (1) | (9) |
| Tomato sauce | (1) | (9) |
| Sugar | (1) | (8) |
| Ice | (2) and (3) | (3) |
| Edible oils and fats | (2) and (3) | (3) |
| Sausages and similar products | (2) and (3) | (3) |
| Salt | (1) | (10) |
| Processed rice | (5) | (11) |
| Bakery products | (6) | (6) |
| Beer | (1) | (12) |
| Other alcoholic beverages[a/] | (1) | (13) |
| Carbonated beverages | (2) and (3) | (3) |
| Textiles | (7) | (7) |
| Footwear | (2), (3) and (4) | (3) |
| Paints | (3) | (3) |
| Cement | (2) and (8) | (14) |
| Sawn wood | (2) and (3) | (3) |
| Tiles | (2) and (3) | (3) |

a/ Aniseed, cognac, gin, rum, seco, wines, whisky, brandy, planter's punch and peppermint.

/Explanatory notes

Explanatory notes

(1) Estadística Panameña.

(2) Industrial surveys carried out by the Statistical and Census Department in 1955 and 1956.

(3) Statistical and Census Department, Survey of manufacturing production. Direct enquiry on the production of industrial enterprises during the period 1945-56 and prices in 1950.

(4) Survey of footwear production in Panama City, 1950-55. Thesis by Edgar Barahona, University of Panama.

(5) Estimated as a constant proportion of rice output.

(6) The gross value of production was estimated on the basis of net imports of raw materials (wheat flour and yeast) and the ratio between the value of sales and the number of tons of flour used. This latter ratio was obtained from the 1956 industrial survey and is considered valid for 1950 since there have been practically no changes in the price of bread.

(7) The gross value of production was estimated on the basis of net imports of fabrics, lace, yarns, etc. and the unit values of imports in 1950. In making the adjustments necessary to obtain from the value of imports the gross value received by producers, account was taken of the fact that not all fabrics (especially those used to make women's and children's clothing) go to industry, some being used for domestic consumption. Furthermore, while fabrics for women's and children's clothing are bought almost exclusively at retail prices, fabrics for men's clothing are largely acquired wholesale. The results of the Encuesta de costo de la vida en la ciudad de Panamá (Enquiry on the cost of living in Panama City) (published by the Statistical and Census Department in 1952) were used for the purpose of analysing the consumption of the various types of fabrics within each category and the data on retail prices.

(8) Statistical and Census Department. Data obtained directly.

(9) Statistical and Census Department. Unit value of sales.

(10) Information provided by the Economic Development Institute (Instituto de Fomento Económico), which controls all purchases.

(11) Statistical and Census Department.

(12) General Inland Revenue Department. Unit value of sales.

(13) Statistical and Census Department. Direct survey of a number of enterprises.

(14) Unit value of sales. Enquiry by a mission from the International Bank for Reconstruction and Development (IBRD).

/(c) Construction

(c) Construction (tables B-9 and B-10)

This index was constructed on the basis of the apparent consumption (production plus imports minus exports and re-exports) of the following construction materials: Portland cement; white cement; timber; roof board; window glass; iron and steel structural shapes; pipe unions, tubing, etc.; copper fittings and tubing; copper pipes and tubes; curtain-rails, etc.; wall and floor tiles, etc.; water closets, urinals, etc.; sinks, iron wash-basins; iron doors and windows; nails, tacks and brads; locks; asbestos sheets and boards; refractory bricks; forged iron and steel bars; sand; stone; tiles.

The following were the sources and methods used:

(i) Construction materials produced domestically.

Cement: See the table of sources and methods used for the manufacturing series, notes (2) and (8).

Timber: Data were taken from the series on sawn wood. See explanatory notes (2) and (3) of the same table.

Sand: IBRD survey (1950-54) and data collected directly by the Statistical and Census Department (1955-56). For 1945-49 estimates were based on Government fees for sand removal licences.

Stone: For the years 1950-56, the same sources were used as for sand. For the years 1945-49, consumption was estimated as a constant proportion of the total quantity of sand removed.

Tiles: See manufacturing industries table, explanatory notes (2) and (3).

(ii) Imported, exported and re-exported construction materials.

Statistical and Census Department: Extractos Estadísticos de Comercio Exterior (Statistical extracts for external trade) (1945-50) and detailed tables (1951-56), which have not yet been published.

(iii) 1950 prices. See in the sources and methods table explanatory note (15) in the case of cement and note (3) in the case of timber and tiles. For sand and stone, data were taken from an IBRD survey. For the other materials not produced in Panama, a constant was added to the unit value of imports. This constant was worked out by comparing domestic prices with the unit value of imports for various imported construction materials.

/(d) Electric

(d) Electric power, gas and water (tables B-11 and B-12)

The sectoral index was constructed by combining the three sub-indices of physical production (electric power, gas and water), weighted with the respective gross values of production in 1950.

(i) Electric power. Production series covering the districts of Panama and Colón were obtained for the years 1945-56 (Estadística Panameña). For production during the years 1952-56 in the remainder of the Republic, there is only incomplete information, provided by the Public Utilities Control Section (Sección de Control de Empresas de Utilidad Pública). The series was completed with estimates based on plant capacity.

Production in the years 1945-51 in the remainder of the Republic was estimated by assuming that its share of total production is rising slightly and uniformly.

1950 prices in the districts of Panama and Colón relate to the unit value of sales obtained by the Statistical and Census Department as a result of direct enquiry. For the remainder of the Republic, the unit value was estimated on the assumption that the 1955 ratio between the unit value for Panama and Colón and that for the rest of the Republic remains constant.[15/]

(ii) Gas. Production series are available for the period 1945-56 (Estadística Panameña).

The 1950 price was obtained by calculating the unit value of sales. The data were collected directly by the Statistical and Census Department.

(iii) Water. The consumption series for the cities of Panama and Colón was obtained for the years 1945-56 (Estadística Panameña). For the environs of Panama City, the sources were: 1945, Memoria del Ministerio de Salubridad y Obras Públicas (the figure given was for one half-year only; this was therefore doubled); 1946-49, estimated on the basis of the population and average per capita consumption in 1945 and 1950; 1950-51, Statistical and Census Department (unpublished); 1952-56, Estadística Panameña.

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15/ Statistical and Census Department, Encuesta Industrial, Special reports, Panama, 1955.

For the rest of the Republic: 1945-51, same source and method as that used for the environs of Panama City; 1952-56, estimated on the basis of the population and average per capita consumption in 1945 and 1950.

The gross value of consumption in 1950 was obtained directly (Estadística Panameña).

(e) Transport, storage and communications (table B-13)

The index was constructed by combining eight sub-indices weighted by the respective values added during the base year.

(i) Passenger transport by rail. Passengers carried by the Ferrocarril Nacional de Chiriquí (Estadística Panameña).

(ii) Freight transport by rail. Freight carried by the Ferrocarril Nacional de Chiriquí (Estadística Panameña).

(iii) Passenger transport by road. Series of commercial passenger transport vehicles. Vehicles in the districts of Panama and Colón (1945-56), (Estadística Panameña). Vehicles in the rest of the Republic (1955 and 1956), (Estadística Panameña). Vehicles in the rest of the Republic (1945-54), estimated on the basis of the total number of licence plates issued[16] and on the ratio between old and newly-issued plates in 1955-56. The ratio of passenger to freight vehicles was assumed to be constant and the same as that observed in 1955-56.

(iv) Freight transport by road. Series showing the total capacity of freight vehicles. The same sources and adjustments as described in the previous paragraph.

(v) Maritime passenger transport. Series submitted by the harbour-master of the Port of Panama showing entries and departures of passengers at the port in coastal vessels.

(vi) Maritime freight transport. Series based on data supplied by the harbour-master of the Port of Panama showing entries and departures of freight in coastal vessels.

16/ Taken from the register of licence-plate applications at the Contraloría General de la República.

/(vii) Air

(vii) Air transport. From 1945 to 1950, number of Panama residents who travelled abroad by air. From 1950 to 1956, total movement of passengers in Tocumen Airport (Estadística Panameña).

(viii) Communications. (a) Unofficial, Quantum index of wages and salaries of Government employees (see below, consumption in the public sector, section C.1). (b) Official. Number of telephones installed in the cities of Panama and Colón (Estadística Panameña), Rest of the Republic: data supplied by the General Post Office and Telecommunications Department (Dirección General de Correos y Telecomunicaciones).

(ix) Storage. The basis was the weighted index for the means of transport and communications necessary to transfer the storage product, excluding that originating in Colón, Free Zone. The product of the Free Zone (1953-56) was then added and the final index for the storage product was calculated. The product originating in the Free Zone was estimated on the basis of gross wages, rents and other payments made by enterprises in the Zone.[17/] Rents and the prices of "other payments" were assumed to be constant. In the case of gross wages, the series was deflated with the consumer price index for foodstuffs in Panama City.

(f) Trade (table B-14)

Weighted average of the indices of the gross product of agriculture, forestry and fishing, the gross manufacturing product and the import quantum (c.i.f.). The index of the gross product of agriculture used for the construction of the trade index excludes the product originating in the banana-exporting company and in fish exports.

(g) Banking, insurance and real estate (table B-15)

The index was constructed by combining three sub-indices: banking, insurance and real estate.

It was assumed that the banking index was the same as that for trade. The insurance index was constructed on the basis of the gross premium receipts of the insurance companies. This series was prepared with the help of data on Government taxes on gross premiums (Estadística Panameña).

17/ Joaquín F. Franco Jr., La zona libre de Colón o una institución fundamental para la economía panameña, Panama, 1958.

The real estate index was constructed on the basis of a series showing the number of deeds recorded in the Real Estate Register (Diario del Registro de la Propiedad).

In order to weight the three sub-indices, the gross product of the three separate sectors was used. The break-down of the gross product among the three activities mentioned was based on the distribution of the labour force engaged in the activities in question, according to the 1950 Population Census.

(h) Housing (table B-16)

The index of real rents is considered as represented by the series showing the number of dwelling-units in existance in the Republic. This series was estimated on the basis of information obtained in the 1950 Housing Census and on the gross product index of private building. It was assumed that the net increase in the housing industry during 1950 was proportionate to the population growth in the same year. The net increase in housing inventory thus calculated was adjusted with the construction index and a series of net additions to the housing inventory was thus obtained. With this series and with the census data on housing inventories in 1950, the series on the number of dwelling-units in existence was obtained by addition and subtraction.

(i) Public administration (table B-17)

This sectoral index reflects the number of administrative employees of the various governmental bodies. The information was obtained from expenditure budgets and direct enquiry by the Statistical and Census Department.

(j) Public and private services (table B-18)

The sectoral index includes the services listed in the calculation of the product for 1950, with the exception of legal services, services of hairdressing and beauty salons and photographic, gardening and laundry services. Public services cover police, health and educational services, and the racetrack and lottery. The weights utilized were those of the gross product originating in each of these services in 1950.

(i) Medical and sanitary services. Series showing the number of physicians practising in the Republic (Estadística Panameña).

/(ii) Domestic

(ii) Domestic services. Private consumption expenditure, with the exception of expenditure on domestic services.

(iii) Films and other public entertainments. Register of stamp tax for theatres and public entertainments (Banco Nacional de Panamá). Information was obtained for the years 1945, 1947, 1950, 1955 and 1956. The number of tickets sold in the remaining years was estimated on the basis of the series showing Government revenue from taxes paid by theatres and other public entertainments.

(iv) Commercial services. The index of the product of private building was used.

(v) Private education. Series on enrolments (Estadística Panameña). For the calculation of the gross value in 1950, a direct enquiry was made into the enrolment fees and monthly charges of a number of private schools during the base year.

(vi) Hotels. Index of tourist expenditure in Panama, excluding expenditures of visiting military personnel (see explanation in section E.2.d (ii).

(vii) Restaurants. The index of tourist expenditure described in the previous paragraph and the index of food consumption expenditure, equally weighted, were combined.

(viii) Bars and cabarets. The index of the value of production and imports of alcoholic beverages and the index of expenditures of foreign visitors were combined into a single index, with the same weighting (in this case military visitors were included).

(ix) Welfare, health and educational services. The index represents wages paid by the Government, excluding those paid to employees engaged in public capital formation (see section C.1.b).

(x) Racetrack. Series showing the total bets placed at the national racetrack (Estadística Panameña).

(xi) Lottery. Series showing net sales of tickets during the period (Estadística Panameña).

(k) Services rendered to the Panama Canal Zone (tables B-19 and B-20)

/(i) Wages

(i) Wages of regular employees. Current values. The Statistical and Census Department possesses data on the employees of the Canal Company and the Railway Company for the period 1939-56, and on the employees of other agencies only from 1950 onwards. Another source gives the total payroll of all Canal Zone agencies in respect of employees resident in Panama during the period 1939-45.[18] In estimating the wages paid to regular employees of the remaining Canal Zone agencies during the years 1946-49, a fixed ratio was assumed between them and the total payroll. Quantum. The current values series was deflated by an index, provided by the Canal Company, of the wages paid to non-United States employees of the Canal and Railway Companies.

(ii) Sales of services to Canal Zone agencies. Current values. See explanatory notes relating to the estimate of the product of this branch of activity, section A.1.j(ii). Quantum. The current values series was deflated with the wage index referred to in the preceding paragraph.

(iii) Wages of contractors' employees. Current values. See explanatory notes relating to the product of this branch of activity, section A.1.j(iii). Quantum. The current values series was deflated with the consumer price index of foodstuffs in Panama City.

## B. IMPORTS (table B-21)

In determining the series for current values and the quantum of imports the floowing categories were taken separately: (1) registered imports; (2) purchases by ships and aircraft; (3) hospital services in the Canal Zone's; and (4) purchases by Panama residents in commissaries in the Canal Zone.

### 1. Registered imports [19]

Registered imports were broken down into ten categories which are listed in table B-22.

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18/ Findley Weaver, Panama's Receipts from the Canal Zone in Relation to her Foreign Trade and National Income, 1946.

19/ The series of registered imports - aggregate and by groups - were prepared by ECLA on the basis of official statistics supplied and later revised by the Statistical and Census Department.

(a) Current values (table B-22)

The series for current values (f.o.b.) of registered imports (excluding gold and securities) were obtained from the Extractos de Comercio Exterior and from the Estadística Panameña bulletins issued by the Statistical and Census Department. For the estimates of the series of current values for each of the categories into which imports were divided, a sample was selected representing about 85 per cent of the f.o.b. value of imports registered during the period under review. As there was no existing classification of total registered imports, an estimate had to be made, for each year, of the value of each of the categories, on the assumption that distribution within the total was equal to the distribution within the sample, with the exception of the fuels and lubricants group, where 100 per cent was taken as the value for the series.

The f.o.b. values of registered imports were converted to c.i.f. values - both for the aggregate and for the groups - on the basis of the estimates made by the International Monetary Fund[20/] of additions to f.o.b. values on account of freight and insurance (15 per cent during the period 1945-55 and 18 per cent in 1956).

(b) Quantum (table B-23)

For each of the categories of the import sample previously described physical series were prepared. Their value was calculated at the unit values for each of them in 1950. In order to expand the sample to the population it was assumed that the ratio between the total quantum in each category of registered imports and the quantum of the sample items was proportionate to the current values of the total and of the sample in each category. The quantum was converted to a c.i.f. basis by increasing the series values by 15 per cent.

(c) Indices of unit value of imports (table B-24)

The indices of the unit value of imports (base 1950 = 100) were obtained by dividing the series of current values of imports by the appropriate quantum series and multiplying by 100.

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20/ International Monetary Fund, International Financial Statistics.

2. Purchases of ships and aircraft (table B-21)

(a) Current values

The data were supplied by the Statistical and Census Department.

(b) Quantum

The current value series was deflated by the index of the unit value of imports.

3. Hospital services in the Canal Zone (table B-21)

The source and procedures were the same as those used for purchases of ships and aircraft.

4. Purchases in Canal Zone commissaries by Panama residents

(a) Current values

For the whole period, a fixed percentage was assumed for the total wages and salaries earned by regular Canal Zone employees resident in Panama.

In the absence of sufficient information, recourse had to be had to indirect indications based on analysis of a limited number of questionnaries used for families of Canal Zone employees in the enquiry into the cost of living in Panama City (1952), on analysis of Panama's balance-of-payments estimates for a period of 11 years, and on a small-scale survey of Canal Zone employees and ex-employees.

(b) Quantum (table B-25)

The current values series was deflated by a special price index. This index combines the sub-indices of food and clothing and durable goods in the United States,[21/] weighted in accordance with the relative importance of each type of consumption in Panama City (Cost of living enquiry, 1952).

21/ U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States. 1956.

## C. CONSUMPTION (table B-26)

### 1. Consumption in the public sector (table B-27)

This table covers current expenditure in the public sector except for expenditure by State-owned enterprises. Current public expenditures were broken down into wages and salaries (excluding wages and salaries of construction workers)and current purchases.

(a) Current values

Statistics concerning the central Government were taken from the Informes Anuales de la Contraloría General de la República, which give a break-down of public expenditure by budget sections. These were arranged under the categories of consumer expenditure, transfers and investment.

For over-all sections, i.e. sections simultaneously including several of these categories, the break-down of the totals into the categories had in some cases to be assumed.

In the case of the municipalities, data were taken from the Informes Municipales, and the procedure followed was similar to that described for statistics concerning the central Government. In the absence of the detailed information necessary to identify for the period 1945-49 the various items making up the consumption category, estimates had to be made for these items on the assumption that their share of aggregate municipal expenditure during that period remained constant and equal to that recorded during the three-year period 1950-52.

The reports of the Social Security Fund, the National Lottery, the National Racetrack and the University of Panama, were the sources used for figures relating to these institutions, the same classification being followed. The necessary adjustments were made to eliminate duplication in the case of items also included in the national budget. With respect to the Social Security Fund, the same problem was encountered as in the municipalities series, and the same solution was applied.

(b) Quantum

In constructing the series on public consumer expenditure at 1950 prices, different procedures were followed for wages and salaries and for current Government purchases. In the case of wages and salaries. series were

worked out showing the numbers of Government employees, by ministries, during the periods 1945-50 and 1955-56. The source used was a break-down of wages paid and staff employed by the Government, by categories of employees, prepared by an IBRD mission[22/] for the period 1950-54. The next step was to estimate the quantum of wages and salaries, multiplying the average wages paid by each ministry in the year 1950 by the employees series for the periods 1945-49 and 1955-56 and multiplying the average wages earned by each category of employees in the year 1950 by the employees series for the period 1951-54.

In order to construct the series for the quantum of wages and salaries paid throughout the public-sector as a whole, it was assumed that the ratio between quantum and current value in this sector from year to year was equal to that determined for the Government sub-sector.

As regards current Government purchases, a special price index was used to deflate the current values series, so that an estimate of the quantum could be arrived at (table B-28).

This index was a combination of the price indices for imported and domestic goods, weighted in accordance with their relative individual shares in total current Government purchases in 1950, on the basis of the break-down of budgetary items already described.

In constructing the index of the unit value of the imports component of current Government purchases, the following articles were selected: office and cleaning materials, petrol, lubricants, motor-vehicle spare parts and accessories, medicines, arms and munitions, fertilizers, seeds, livestock, feeds and other agricultural materials, and books and teaching equipment. The quantities imported year by year were used for weighting purposes.

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1/ Material prepared by the Statistical and Census Department for the report of the mission of the International Bank for Reconstruction and Development to the Panama Government, 1956

/The price

The price index for the domestic component was constructed by combining the sub-indices for foodstuffs, rents, electricity, clothing and transport. This index was weighted in accordance with the relative share of each of these items within the total current Government purchases of domestic goods and services. The sub-index for foodstuffs was based on the consumer price index for foodstuffs in Panama City (Estadística Panameña). The sub-index for rents was based on the assumption of a constant rent throughout the whole period. In working out the sub-index for electricity prices the unit costs of fuel oil consumed by the electric power company operating in the cities of Panama and Colón were used. In the case of the sub-index for clothing prices, an index of unit values (f.o.b.) of imported cloth was constructed. The transport sub-index was based on the unit value (f.o.b.) of petrol imports.

2. Private consumption

In constructing the series showing total private consumption and its component items at 1950 prices, separate estimates were made for consumption met from home production and from imports in 1950. The resulting figures were brought into relationship with quantum indices for each category for the period 1945-56, with 1950 as the base year. In both cases the classification of private consumer expenditure proposed by the United Nations [23] was used.

(a) Consumption met from imports (table B-29)

(i) Estimate for the value of consumption in 1950. The imports and re-export sections (Estadística Panameña and Extracto Estadístico de Comercio Exterior: Años 1949-50) corresponding to finished consumer goods were arranged in accordance with the classification already described. For each one, the net f.o.b. value of imports was worked out as follows: quantity of imports less quantity of re-exports, multiplied by unit f.o.b. value of imports. This gave the net f.o.b. value of imported consumer goods, broken down into groups and sub-groups. The calculation of the value of consumption of these goods was based on the prices paid by the

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1/ A system of national accounts and supporting tables, Series F, No.2 appendix No. 2 (United Nations publication, Sales Number: 1952.XVII.4).

consumer (Estadística Panameña) for the main items within each sub-group (or whole group in cases where there were no sub-divisions), multiplied by their respective net quantities of imports. For the item "Others" in each sub-group (or group), made up of all other goods whose prices were not directly calculated, the value of consumption was determined by applying to their net f.o.b. value the weighted average of the ratio between the final consumer prices and the f.o.b. unit value of those goods within the relevant sub-groups (or groups) whose consumer prices had already been worked out. With regard to over-all categories, i.e., those including different types of goods, it was felt necessary to deal more specifically with a number of goods within each category. Certain consular invoices for the year 1958 were therefore analysed, and the corresponding consumer price data for that year were obtained by visits to the retail vendors concerned. In these cases, it was assumed that the ratio between consumer prices and the f.o.b. unit value in 1958 had remained the same as in 1950. In some instances, where the categories included goods destined partly for final consumption and partly for intermediate uses (petrol and oils and lubricants, for example) certain prior assumptions had to be made regarding the relative proportions involved. Thus, in the case of petrol and lubricating oils (the most important items), it was assumed that the quantitties destined for final and intermediate consumption were proportionate respectively to the number of private and of commercial vehicles in existence in Panama in 1950.

(ii) Series of private consumption met from imports. The value of consumption in 1950 for each sub-group (or group) was adjusted by application of a quantum index of net imports of each of the principal items (the same items as those chosen for the price survey). In the case of petrol and lubricating oils, the necessary adjustment was made to allow for variations in the ratio between the number of private vehicles and the total number of vehicles.

(b) Consumption met from domestic production (table B-30)

(i) Estimate of the value of consumption in 1950. Many of the estimates had already been made by the Statistical and Census Department in evaluating consumption for the purposes of the national accounts. These

estimates were revised and completed with data drawn from additional sources, including the following:

1. Censo Agropecuario de 1950 (most farm products).
2. Estadística Panameña (consignments of goods to Panama City from the rest of the Republic) for certain farm products.
3. Estadística Panameña, certain types of industrial production (manufacturing, electric power and gas).
4. Industrial survey carried out by an IBRD mission.
5. Encuesta sobre producción industrial published by the Statistical and Census Department, 1958.
6. Annual surveys, made by the Statistical and Census Department for its national income estimates.
7. Estimates based on the consumption of imported raw materials.
8. Estimates based on taxation rates and taxes paid for certain activities.
9. Estadística Panameña, transport of passengers by the Ferrocarril Nacional de Chiriquí.

(ii) Series showing private consumption met from domestic production. The consumption values in each sub-group (or group) were adjusted by indices of the quantum of production based on the items for which complete information was available for the whole period (see reference to the gross product index in section A.2.a).

(c) Adjustments

The method described of estimating private consumption involves certain omissions and duplications. Certain adjustments had to be made to the total consumption thus estimated in order to obtain a private consumption series (table B-31).

## D. GROSS INVESTMENT SERIES (table B-32)

The total gross investment series was based on a direct estimate for the year 1950, and the resulting figure was related to an index of gross investment constructed for the period 1945-56.

1. Total gross investment: 1950

This was estimated as the aggregate of the gross value of construction, the cost of acquisition of domestically-produced and imported capital goods, and the value of changes in livestock inventories and plantations.

(a) Gross value of construction

This figure represents the aggregate of the sectoral gross product and of the materials utilized. For the sources and methods used to calculate the first component, see section A.1.c.

In estimating the value of the materials utilized, domestically-produced and imported materials were considered separately. As construction materials produced in Panama, the following were taken: cement, sawn wood, tiles, stone, sand, and earthenware and other non-metallic mineral products.

For the sources and methods used in connexion with the first four materials mentioned, see section A.1.b. In the case of the other two materials, use was made of the results of an enquiry carried out by an IBRD mission 24/. As regards imported construction materials, the same procedure as that used for imported capital goods was followed (see below).

(b) Imported capital goods

Use was made of foreign trade statistics (Estadística Panameña) and of the IBRD break-down referred to above, which was altered slightly so as to eliminate certain items and re-classify others. Capital goods were valued at market prices as follows: certain capital goods were chosen within each category and their market prices were studied directly. The average ratio between the market prices and the f.o.b. unit values of the goods selected was applied to the f.o.b. value of similar capital goods.

Finally, certain percentages were added to cover the cost of transport installation, etc.

(c) Value of changes in livestock inventories and plantations

See section A.1.a. for the estimate of the changes in livestock inventories. The only changes in plantation area taken into account were those of the Chiriquí Land Co. (bananas), the source used being the latter's annual reports. The method is similar to that used for estimating changes in livestock inventories.

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24/ Formación de Capital: años 1950-1954, published by Statistical and Census Department.

2. Indices of total gross investment at 1950 prices

This index was constructed by combining three sub-indices: gross value of construction, imported capital goods and value of changes in livestock inventories and plantations. The weights used were the corresponding gross values at 1950 market prices.

(a) Construction (table B-33)

The index of the gross product originating in construction was used.

(b) Imported capital goods (table B-34)

The index of the quantum of imported capital goods was used (see references to imports, sections B.1.b and B.2.b).

(c) Changes in livestock inventories and plantations (table B-35)

Livestock inventories, 1944-47: Ministry of Agriculture, Agricultural Economy Department. Years 1948-49 and 1951: estimates based on the average ratio between inventories and slaughterings (Estadística Panameña). Year 1950: Censo Agropecuario. Years 1952-56: agricultural surveys carried out by the Statistical and Census Department. Plantation inventories: annual reports of the Chiriquí Land Co.

3. Public investment (table B-27)

(a) Current values

For the calculation of the current values of public investment, the same procedures were employed as those used with regard to public consumption, and the same sources, with the addition of the reports issued by the following State enterprises: Ferrocarril Nacional de Chiriquí, Banco Nacional (with its present branches), Caja de Ahorros, Banco Agropecuario e Industrial and the Economic Development Institute.

Public investment was broken down into three categories: (1) streets, highways, docks, etc.; (2) buildings and other public works and (3) purchases of machinery and equipment.

(b) Quantum

In estimating the quantum of public investment, special deflationary indices were constructed for each category (table B-36).

In the case of road and dock construction, etc., an index was prepared combining the index of consumer prices of foodstuffs in Panama City and the index of the unit value of imports of construction materials, weighted

/by the

by the relative share of manpower and materials, respectively, used in 1950. The same procedure, although with different weighting factors, was used to obtain the deflationary index in the case of building and other public works. The proportions of manpower and materials used in both cases were calculated by analysing the construction items listed under central Government expenditure (Informes de la Contraloría).

In the case of machinery and equipment purchases, a weighted index of the unit value of imports of these items was used (capital goods for agriculture, industry and mining and for transport - see notes on sources and methods relating to registered imports in section B.1.).

4. Gross private investment

The gross private investment series was based on the difference between the gross total investment series and the public investment quantum series.

## E. SERIES OF CAPACITY TO IMPORT (table B-37)

Capacity to import was broken down into three general categories: registered exports, transit and tourist services, and Canal Zone.

1. Registered exports (table B-38)

(a) Current values

Source: Statistical and Census Department, Extractos de Comercio Exterior, and Boletines de Estadística Panameña. Certain products were revalued in accordance with the method suggested by the International Monetary Fund, which is used for drawing up Panama's balance of payments. The totals were broken down into four groups.

(b) Quantum

For each group, the most important items were chosen and quantum series were worked out by multiplying the 1950 unit values of each item by the physical volume series. In order to obtain the total quantum, it was assumed that for each group the ratio between the total quantum and the sample quantum was equal to the ratio between the current values of the total and of the sample.

(c) Capacity to import

This was calculated by dividing the current values series by the index of the unit value of imports.

/2. Transit and

2. Transit and tourist services (table B-37)

(a) Re-exports

(i) Current values. The same sources as those used for exports. The totals were broken down into ten groups (see table B-39).

(ii) Quantum (table B-40). Procedure was similar to that employed in calculating the export quantum.

(iii) Capacity to import. Quotient of the current values of re-exports and the unit value of imports.

(b) Colón Free Zone

The figures relate to the gross product originating in enterprises operating in the Free Zone (excluding their profits).

(i) Current values (table B-41). See the source quoted in section A.2.e (ix).

(ii) Quantum (table B-42). Similar procedure to that described in the section referred to in the foregoing paragraph.

(iii) Capacity to import. This was obtained by dividing the current values series by the index of the unit value of imports.

(c) Sales to ships in transit

(i) Current values. Source: Statistical and Census Department, foreign trade statistics (table B-41).

(ii) Quantum. This was obtained by dividing the current values series by the index of the unit value of re-exports of alcoholic beverages and cigarettes, the principal re-exports (table B-42).

(iii) Capacity to import. Quotient of the current values and the index of the unit value of imports.

(d) Expenditure of foreign visitors

(i) Current values. The current values series was worked out by multiplying the quantum series (as explained below) by a special index of export prices corresponding to tourist expenditure. This index is a combination of the sub-indices for foodstuffs (consumer prices, Panama City), transport (unit value of petrol imports), alcoholic beverages (unit value of imports) and clothing, perfumes, etc. (index of unit value of such products). The weighting factors were based on the results of a number of sample surveys carried out from 1952 by the Statistical and Census Department (table B-43).

(ii) Quantum (table B-44). The average daily expenditure for each type of visitor was calculated and was adjusted on the basis of the relevant series of numbers of visitor/days. To determine the average length of stay of visitors to Panama (by categories), the results of the surveys which the Statistical and Census Department has been carrying out since 1952 were used. The average daily expenditure for each type of visitor corresponds to the average expenditure in 1952. To obtain the 1950 value, this was deflated by the price index referred to in the preceding section.

Sources: 1945-49 - annual reports issued by the Governor of the Canal Zone, number of passengers leaving by air (albrook Field Airport), and number of passengers disembarking in the ports of Balboa and Cristóbal. For the years 1950-56 - Statistical and Census Department, surveys of foreign visitors and migration statistics.

(iii) Capacity to import. This was obtained by dividing the current values series by the index of the unit value of imports.

(e) Expenditure of foreign diplomats resident in Panama

(i) Current values. Source: Statistical and Census Department, direct enquiries carried out in connexion with the preparation of the balance of payments (table B-41).

(ii) Quantum. Current values series deflated by the index of consumer prices of foodstuffs in Panama City (table B-42).

(iii) Capacity to import. Current values series divided by the index of the unit value of imports.

3. Sales to Canal Zone (table B-37)

(a) Wages and services

(i) Current values (table B-41). Includes the following items: wages of regular employees, wages of contractors' employees, and sales of services to Canal Zone agencies. See the section on the gross product originating in services to the Canal Zone (A.2.k.).

(ii) Quantum. See the section referred to in the previous paragraph. (table B-42).

(iii) Capacity to import. This was obtained by dividing the current values series by the index of the unit value of imports.

/(b) Sales of

(b) Sales of goods to Canal Zone agencies

(i) Current values (table B-41). Source: Statistical and Census Department, enquiries in connextion with the preparation of the balance of payments. For explanations of the method used, see section A.1.j (ii).

(ii) Quantum (table B-42). Current values deflated by the index of the prices of foodstuffs in Panama City.

(iii) Capacity to import. Current values were divided by the index of the unit value of imports.

(c) Sales to Canal Zone residents

(i) Current values (table B-41). Source: Statistical and Census Department, enquiries made in connexion with the preparation of the balance of payments. As data were available for the period 1946-53 only, per capita expenditure for the years 1945 and 1954-56 was assumed to be equivalent to the average of the figures recorded for that period.

(ii) Quantum (table B-42). Current values deflated by a special price index corresponding to sales to Canal Zone residents. This index is a combination of the sub-indices for beverages (unit value of imports), perfumes (unit value of imports), silk clothing (unit value of imports), lottery and racetrack (constant prices), and transport (unit value of petrol imports). The weighting factors were fixed arbitrarily (table B-45).

(iii) Capacity to import. The current values series was divided by the index of the unit value of imports.

4. Terms of trade indices (table B-46)

As was explained in the previous section, both the current values series and the quantum series were estimated for each one of the items listed under capacity to import. In each case, the division of the former by the latter gives the export price indices for each item. If these indices are divided by the index of the unit value of imports, the respective terms of trade indices are obtained for each item (table B-46).

/Table B-1

Table B-1

PANAMA: GROSS PRODUCT BY BRANCH OF ECONOMIC ACTIVITIY, 1945-56

(Millions of balboas at 1950 prices)

| Branch of activity | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 264.8 | 269.0 | 269.7 | 251.8 | 252.8 | 258.3 | 262.2 | 276.9 | 293.2 | 300.3 | 314.7 | 325.5 |
| Agriculture (crops and live stock), forestry and fishing | 51.8 | 59.1 | 61.8 | 61.8 | 65.7 | 65.0 | 66.8 | 66.6 | 75.1 | 76.3 | 83.0 | 80.2 |
| Manufacturing | 21.8 | 24.9 | 26.6 | 26.0 | 27.1 | 28.3 | 28.7 | 35.3 | 35.3 | 33.8 | 34.5 | 35.3 |
| Construction a/ | 12.3 | 11.4 | 13.9 | 10.7 | 9.2 | 9.4 | 9.3 | 10.4 | 11.6 | 12.1 | 13.8 | 14.1 |
| Electricity, gas and water | 2.8 | 2.9 | 3.2 | 3.4 | 3.5 | 3.8 | 4.1 | 4.5 | 4.7 | 4.9 | 5.4 | 5.5 |
| Transport, storage and communications | 10.0 | 10.6 | 9.9 | 10.2 | 10.3 | 11.9 | 11.2 | 11.5 | 12.5 | 14.2 | 13.6 | 17.0 |
| Wholesale and retail trade | 35.5 | 42.0 | 44.3 | 38.6 | 39.2 | 41.0 | 41.7 | 46.1 | 47.0 | 48.2 | 50.0 | 51.5 |
| Banking, insurance and real estate | 4.3 | 5.1 | 5.5 | 5.0 | 5.2 | 5.3 | 5.8 | 6.3 | 6.5 | 7.0 | 7.0 | 7.7 |
| Housing | 23.3 | 24.1 | 25.0 | 26.2 | 27.5 | 28.6 | 29.4 | 30.4 | 31.4 | 32.7 | 34.1 | 35.6 |
| Public administration | 3.5 | 3.8 | 3.8 | 3.9 | 3.8 | 3.9 | 3.8 | 3.9 | 3.9 | 3.9 | 4.4 | 4.6 |
| Public and private services | 44.0 | 44.8 | 40.8 | 38.9 | 38.1 | 41.1 | 42.5 | 42.9 | 45.5 | 49.9 | 50.1 | 53.9 |
| Services to Panama Canal Zone | 55.5 | 40.3 | 34.9 | 27.1 | 23.2 | 20.0 | 18.9 | 19.0 | 19.7 | 17.3 | 18.8 | 20.1 |

Source: See text of appendix B.

a/ Including mining and quarrying.

/Table B-2

Table B-2

PANAMA: GROSS PRODUCT BY BRANCH OF ECONOMIC ACTIVITY, 1950

(Millions of balboas at 1950 prices)

| Branch of activity | Gross product at market prices | | | Depreciation | | | Indirect taxes |
|---|---|---|---|---|---|---|---|
| | Total | Private | Public | Total | Private | Public | |
| Total | 258.3 | 227.8 | 30.5 | 18.0 | 15.0 | 3.0 | 21.9 |
| Agriculture (crops and livestock), forestry and fishing | 65.0 | 64.5 | 0.5 | 1.5 | 1.5 | - | 1.2 |
| Manufacturing | 28.3 | 28.2 | 0.1 | 2.8 | 2.8 | - | 3.5 |
| Construction | 9.4 | 5.4 | 4.0 | 0.8 | 0.5 | 0.3 | 0.1 |
| Electricity, gas and water | 3.8 | 3.7 | 0.1 | 0.6 | 0.6 | - | - |
| Transport, storage and communications | 11.9 | 10.3 | 1.6 | 0.8 | 0.8 | - | 1.1 |
| Wholesale and retail trade | 41.0 | 41.0 | - | 1.6 | 1.6 | - | 13.5 |
| Banking, insurance and real estate | 5.3 | 2.7 | 2.6 | 0.5 | 0.3 | 0.2 | 0.1 |
| Housing | 28.6 | 28.6 | - | 6.0 | 6.0 | - | 0.4 |
| Public administration | 3.9 | - | 3.9 | 0.5 | - | 0.5 | - |
| Services | 41.1 | 23.4 | 17.7 | 2.9 | 0.9 | 2.0 | 2.0 |
| Services to Panama Canal Zone | 20.0 | 20.0 | - | - | - | - | - |

Source: See text of appendix B.

/Table B-3

Table B-3

PANAMA: GROSS PRODUCT AT MARKET PRICES BY BRANCH OF ECONOMIC ACTIVITY, 1950

(Thousands of balboas)

| Description | Break-down | Total |
|---|---|---|
| A. Agriculture, (crops and livestock), forestry and fishing | | |
| Crops | 49 833 | |
| Livestock a/ | 15 152 | |
| Forestry | 414 | |
| Fishing | 419 | |
| Sub-total | 65 818 | |
| Less: Value of imported intermediate products used as inputs | -2 480 | |
| Gross product (private) | | 63 338 |
| Plus: Wages paid by Government | 472 | |
| Indirect taxes | 1 186 | 1 658 |
| Gross product | | 64 996 |
| B. Manufacturing | | |
| Net product at factor cost (private) | 21 908 | |
| Estimated depreciation | 2 800 | |
| Indirect taxes | 3 464 | |
| Wages paid by Government | 134 | |
| Gross product | | 28 306 |
| C. Construction | | |
| Net product at factor cost (private) | 4 786 | |
| Indirect taxes | 133 | |
| Estimated depreciation | 470 | |
| Wages paid by Government | 3 741 | |
| Depreciation in Government sector, estimated | 300 | |
| Gross product | | 9 430 |
| D. Electricity, gas and water | | |
| Net product at factor cost | 3 122 | |
| Estimated depreciation | 591 | |
| Indirect taxes | 33 | |
| Wages paid by Government | 126 | |
| Gross product | | 3 872 |

/Table B-3 (Cont.)

Cuadro B-3 (cont.)

| Description | Break-down | | Total |
|---|---|---|---|
| **E. Transport, storage and communications** | | | |
| Gross product at market prices | | | |
| Transport | | | |
| Rail | | | |
| Passenger | 74 | | |
| Freight | 29 | 103 | |
| Road | | | |
| Passenger | 4 727 | | |
| Freight | 1 647 | 6 374 | |
| Sea | | | |
| Passenger | 358 | | |
| Freight | 2 006 | 2 364 | |
| Air | | 1 504 | |
| Transport product | | 10 345 | |
| Communications | | | |
| Private | 387 | | |
| Official | 1 101 | | |
| Communications product | | 1 488 | |
| Storage | | 72 | |
| Gross product | | | 11 905 |
| **F. Wholesale and retail trade** | | | |
| Net product at factor cost | 28 310 | | |
| Depreciation | 1 699 | 30 009 | |
| Less: Gross product of bars and cabarets included in trade | | 2 462 | |
| Gross product at factor cost | | 27 547 | |
| Indirect taxes | | 13 486 | |
| Gross product | | | 41 033 |
| **G. Banking, insurance and real estate** | | | |
| Gross product at market prices | | | |
| Banks | 3 710 | | |
| Insurance | 1 060 | | |
| Real estate | 530 | | |
| Gross product | | | 5 300 |
| **H. Housing** | | | |
| Net product at factor cost | 22 168 | | |
| Estimated depreciation | 6 000 | | |
| Indirect taxes | 417 | | |
| Gross product | | | 28 585 |

/Table B-3 (Cont.)

Cuadro B-3 (cont.)

| Description | Break-down | Total |
|---|---|---|
| I. Public administration | | |
| Wages paid by Government | 3 403 | |
| Estimated depreciation | 500 | |
| Gross product | | 3 903 |
| J. Services to Canal Zone | | |
| Regular wages | 15 221 | |
| Sales of services | 2 880 | |
| Wages of contractors' employees | 1 853 | |
| Gross product | | 19 954 |
| K. Services | | |
| Gross product at factor cost | | |
| Private services | | |
| Medical and sanitary services | 1 867 | |
| Domestic services | 7 468 | |
| Public entertainment | 1 320 | |
| Services of engineers and architects | 239 | |
| Private education | 1 000 | |
| Hotels and boarding-houses | 485 | |
| Restaurants | 1 499 | |
| Legal services | 993 | |
| Hairdressing and beauty salons | 674 | |
| Photographers and gardeners | 630 | |
| Laundries | 661 | |
| Bars and cabarets | 4 556 | |
| Gross product private sector | 21 392 | |
| Indirect taxes | 1 970 | |
| Public services | | |
| Police, health and education services | 13 717 | |
| Amusement services, racetrack | 278 | |
| Amusement services, lottery | 1 720 | |
| Estimated depreciation | 2 000 | |
| Gross product, public sector | 17 715 | |
| Gross product | | 41 077 |
| Gross product at market prices, total | | 258 361 |

Source: See text of appendix B.

a/ Including poultry, milk and cheese.

/Table B-4

Table B-4

PANAMA: INDEX OF GROSS PRODUCT BY BRANCH OF ECONOMIC ACTIVITY, 1949-56

(1950 = 100)

| Branch of activity | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 102.5 | 104.1 | 104.4 | 97.5 | 97.9 | 100.0 | 101.5 | 107.2 | 113.5 | 116.3 | 121.8 | 126.0 |
| Agriculture (crops and live-stock), forestry and fishing | 79.7 | 90.9 | 95.1 | 95.1 | 101.1 | 100.0 | 102.7 | 102.5 | 115.5 | 117.4 | 127.7 | 123.4 |
| Manufacturing | 77.1 | 87.9 | 94.1 | 92.0 | 95.9 | 100.0 | 101.3 | 124.8 | 124.9 | 119.3 | 122.1 | 124.7 |
| Construction | 130.6 | 121.2 | 147.7 | 113.7 | 98.3 | 100.0 | 99.3 | 110.5 | 123.2 | 129.2 | 146.7 | 150.5 |
| Electricity, gas and water | 74.1 | 77.4 | 84.5 | 88.4 | 91.9 | 100.0 | 108.2 | 119.5 | 124.6 | 130.4 | 141.1 | 144.4 |
| Transport, storage and communications | 84.0 | 89.1 | 83.2 | 85.7 | 86.6 | 100.0 | 94.1 | 96.6 | 105.0 | 119.3 | 114.3 | 142.9 |
| Wholesale and retail trade | 86.6 | 102.5 | 108.0 | 94.1 | 95.6 | 100.0 | 101.6 | 112.5 | 114.7 | 117.5 | 122.0 | 125.5 |
| Banking, insurance and real estate | 81.1 | 96.2 | 103.8 | 94.3 | 98.1 | 100.0 | 109.4 | 118.9 | 122.6 | 132.1 | 132.1 | 145.3 |
| Housing | 81.4 | 84.2 | 87.3 | 91.7 | 96.0 | 100.0 | 102.9 | 106.3 | 109.8 | 114.2 | 119.2 | 124.6 |
| Public administration | 90.2 | 96.8 | 97.0 | 100.2 | 98.7 | 100.0 | 98.8 | 99.4 | 100.8 | 99.9 | 113.1 | 116.8 |
| Public and private services | 107.1 | 109.0 | 99.3 | 94.6 | 92.2 | 100.0 | 103.4 | 104.4 | 110.7 | 121.4 | 121.9 | 131.1 |
| Services to Panama Canal Zone | 277.5 | 201.5 | 174.5 | 135.5 | 116.0 | 100.0 | 94.6 | 95.0 | 98.5 | 86.5 | 94.0 | 100.5 |

Source: See text of appendix B.

Table B-5

PANAMA: PHYSICAL PRODUCTION OF CERTAIN AGRICULTURAL AND FISHERY PRODUCTS, 1945-56

| Sector | Unit (thousands) | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| rops | | | | | | | | | | | | | |
| For domestic consumption) | | | | | | | | | | | | | |
| Rice | Quintals | 1 258 | 1 160 | 1 294 | 1 591 | 1 693 | 1 792 | 1 808 | 1 943 | 2 374 | 2 113 | 2 116 | 2 099 |
| Maize | " | 601 | 683 | 720 | 841 | 985 | 1 130 | 1 210 | 1 279 | 1 398 | 1 372 | 1 463 | 1 337 |
| Beans | " | 57 | 84 | 87 | 92 | 97 | 114 | 122 | 92 | 97 | 83 | 116 | 80 |
| Potatoes | " | 31 | 64 | 32 | 39 | 47 | 34 | 61 | 39 | 30 | 52 | 56 | 61 |
| Sugar-cane | Tons | 481 | 482 | 537 | 564 | 444 | 324 | 376 | 441 | 430 | 459 | 377 | 380 |
| Coffee | Quintals | 70 | 67 | 78 | 69 | 63 | 64 | 65 | 67 | 53 | 64 | 65 | 50 |
| Tobacco | " | 4 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 16 | 7 |
| Tomatoes | Pounds | 5 452 | 6 925 | 4 960 | 4 396 | 8 658 | 3 753 | 6 080 | 7 680 | 7 768 | 6 816 | 7 774 | 8 731 |
| Cabbage | Quintals | 26 | 24 | 22 | 24 | 34 | 28 | 29 | 40 | 44 | 36 | 40 | 40 |
| Bananas | Stems | 1 926 | 3 886 | 3 465 | 4 236 | 4 338 | 7 587 | 3 671 | 3 068 | 3 510 | 5 374 | 5 254 | 4 664 |
| (For export) | | | | | | | | | | | | | |
| Bananas | Stems | 2 573 | 5 190 | 4 629 | 5 660 | 5 796 | 5 022 | 4 904 | 4 099 | 4 689 | 5 700 | 7 018 | 6 231 |
| Abaca | Kilos | 5 074 | 2 385 | 5 238 | 3 132 | 3 048 | 3 565 | 2 984 | 4 096 | 2 583 | 1 643 | 1 770 | - |
| Cacao | Pounds | 2 200 | 3 407 | 4 634 | 4 168 | 3 454 | 2 971 | 1 897 | 2 682 | 2 630 | 3 623 | 2 655 | 2 558 |
| Livestock | | | | | | | | | | | | | |
| Beef cattle (slaughter) | Head | 62 920 | 68 848 | 79 688 | 77 013 | 75 144 | 73 359 | 73 713 | 68 375 | 73 906 | 73 841 | 77 743 | 79 588 |
| Changes in inventories | " | 10 477 | 10 945 | 30 978 | 16 142 | -14 400 | -8 000 | -3 000 | -13 000 | 20 200 | 10 900 | -400 | 8 900 |
| Pigs (slaughter) | " | 44 108 | 47 203 | 38 801 | 46 292 | 45 632 | 49 172 | 46 415 | 50 740 | 62 331 | 66 693 | 61 335 | 56 177 |
| Changes in inventories | " | 18 183 | 13 471 | 11 627 | -37 785 | -2 800 | 13 900 | -10 600 | -31 500 | 101 300 | -15 500 | -11 000 | -32 900 |
| ishery products | | | | | | | | | | | | | |
| Fish | Pounds | 1 600 | 1 800 | 2 000 | 2 506 | 3 192 | 1 681 | 1 616 | 1 672 | 1 636 | 1 148 | 3 316 | 2 588 |
| Shrimp, domestic consumption | " | 100 | 150 | 250 | 350 | 450 | 385 | 400 | 500 | 500 | 600 | 600 | 735 |
| Shrimp, export | " | - | - | - | - | - | 304 | 1 239 | 2 419 | 5 114 | 4 069 | 4 224 | 5 965 |

ource: See text of appendix B.

Table B-6

PANAMA: GROSS VALUE OF AGRICULTURAL (CROP AND LIVESTOCK), FORESTRY AND FISHERY PRODUCTION BY SECTOR AND PRODUCT, 1945-56

(Thousands of balboas at 1950 prices)

| Sector and product | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 52 482 | 59 805 | 62 598 | 62 564 | 66 582 | 65 818 | 67 626 | 67 474 | 76 007 | 77 268 | 84 087 | 81 240 |
| For domestic consumption | 40 569 | 40 406 | 43 010 | 40 951 | 44 844 | 46 324 | 48 724 | 49 632 | 55 608 | 54 298 | 57 061 | 56 799 |
| For export | 11 913 | 19 399 | 19 588 | 21 613 | 21 738 | 19 494 | 18 902 | 17 842 | 20 399 | 22 970 | 27 026 | 24 441 |
| Indices | | | | | | | | | | | | |
| Total: 1950= 100 | 79.7 | 90.9 | 95.1 | 95.1 | 101.1 | 100.0 | 102.7 | 102.5 | 115.5 | 117.4 | 127.7 | 123.4 |
| For domestic consumption | 87.6 | 87.2 | 92.8 | 88.4 | 96.8 | 100.0 | 105.2 | 107.1 | 120.0 | 117.2 | 123.2 | 122.6 |
| For export | 61.1 | 99.5 | 100.5 | 110.9 | 111.5 | 100.0 | 97.0 | 91.6 | 104.7 | 117.9 | 138.7 | 125.5 |
| Crops, total | 33 534 | 43 071 | 44 324 | 48 939 | 50 087 | 47 833 | 47 364 | 46 619 | 50 203 | 53 791 | 58 880 | 52 491 |
| For domestic consumption | 21 621 | 23 672 | 24 736 | 27 326 | 28 349 | 30 507 | 29 143 | 30 107 | 32 617 | 33 059 | 34 177 | 31 331 |
| Rice | 5 032 | 4 640 | 5 176 | 6 364 | 6 772 | 7 166 | 7 232 | 7 772 | 9 496 | 8 452 | 8 464 | 8 396 |
| Maize | 1 503 | 1 708 | 1 800 | 2 103 | 2 463 | 2 825 | 3 025 | 3 198 | 3 495 | 3 430 | 3 658 | 3 343 |
| Beans | 456 | 672 | 696 | 736 | 776 | 912 | 976 | 736 | 776 | 664 | 928 | 640 |
| Potatoes | 257 | 531 | 266 | 324 | 390 | 281 | 506 | 324 | 249 | 432 | 465 | 506 |
| Sugar-cane | 2 165 | 2 169 | 2 417 | 2 538 | 1 998 | 1 460 | 1 692 | 1 985 | 1 935 | 2 066 | 1 697 | 1 710 |
| Coffee | 2 800 | 2 680 | 3 120 | 2 760 | 2 520 | 2 559 | 2 600 | 2 680 | 2 120 | 2 560 | 2 600 | 2 000 |
| Tobacco | 200 | 250 | 300 | 300 | 300 | 359 | 350 | 350 | 350 | 350 | 800 | 350 |
| Tomatoes | 545 | 693 | 496 | 440 | 866 | 375 | 608 | 768 | 777 | 682 | 777 | 873 |
| Cabbage | 260 | 240 | 220 | 240 | 340 | 282 | 290 | 400 | 440 | 360 | 400 | 400 |
| Bananas | 963 | 1 943 | 1 733 | 2 118 | 2 169 | 3 794 | 1 836 | 1 534 | 1 755 | 2 687 | 2 627 | 2 332 |
| Others | 7 440 | 8 146 | 8 512 | 9 403 | 9 755 | 10 494 | 10 028 | 10 360 | 11 224 | 11 376 | 11 761 | 10 781 |
| For export | 11 913 | 19 399 | 19 588 | 21 613 | 21 738 | 19 326 | 18 221 | 16 512 | 17 586 | 20 732 | 24 703 | 21 160 |
| Bananas | 8 337 | 16 816 | 14 998 | 18 338 | 18 779 | 16 272 | 15 889 | 13 281 | 15 192 | 18 468 | 22 738 | 20 188 |
| Abaca | 2 740 | 1 288 | 2 829 | 1 691 | 1 646 | 1 925 | 1 611 | 2 212 | 1 395 | 887 | 956 | - |
| Cacao | 836 | 1 295 | 1 761 | 1 584 | 1 313 | 1 129 | 721 | 1 019 | 999 | 1 377 | 1 009 | 972 |
| Total livestock | 18 657 | 16 392 | 17 898 | 13 091 | 15 871 | 15 152 | 18 681 | 18 298 | 21 648 | 20 524 | 21 767 | 24 620 |
| Beef cattle | 3 937 | 4 204 | 5 729 | 4 886 | 3 345 | 3 551 | 3 806 | 3 049 | 4 911 | 4 469 | 4 145 | 4 682 |
| Pigs | 1 005 | 979 | 812 | 137 | 691 | 1 016 | 577 | 310 | 2 637 | 826 | 812 | 375 |
| Other livestock prod. | 13 715 | 11 209 | 11 357 | 8 068 | 11 835 | 10 585 | 14 298 | 14 939 | 14 100 | 15 229 | 16 810 | 19 563 |
| Forestry | 100 | 121 | 115 | 200 | 198 | 414 | 654 | 956 | 1 076 | 483 | 651 | 437 |
| Total fishery | 191 | 221 | 261 | 334 | 426 | 419 | 927 | 1 601 | 3 080 | 2 470 | 2 789 | 3 692 |
| For domestic consumption | 191 | 221 | 261 | 334 | 426 | 251 | 246 | 271 | 267 | 232 | 466 | 411 |
| For export | - | - | - | - | - | 168 | 681 | 1 330 | 2 813 | 2 238 | 323 | 3 281 |

Source: See text of appendix B.

Table B-7

PANAMA: PHYSICAL PRODUCTION OF CERTAIN INDUSTRIAL PRODUCTS, 1945-56

| Product | Unit | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Foodstuffs** | | | | | | | | | | | | | |
| Evaporated milk | Tons | - | - | 133 | 416 | 614 | 1 069 | 1 249 | 1 523 | 2 268 | 2 475 | 2 442 | 3 629 |
| Condensed milk | " | 523 | 525 | 562 | 311 | 234 | 152 | 194 | 190 | 196 | 136 | 288 | 239 |
| Sugar | " | 4 244 | 6 018 | 7 908 | 10 125 | 10 364 | 13 015 | 14 865 | 17 421 | 16 974 | 18 089 | 14 894 | 15 034 |
| Tomato paste | " | - | - | - | - | 37 | 31 | 33 | 57 | 86 | 323 | 238 | 347 |
| Tomato sauce | " | - | - | - | - | 20 | 20 | 35 | 79 | 115 | 172 | 290 | 276 |
| Ice | " | 53 807 | 56 863 | 52 105 | 52 309 | 45 843 | 43 027 | 42 676 | 51 819 | 52 499 | 53 716 | 41 406 | 42 571 |
| Edible oils and fats | " | 184 | 524 | 964 | 1 089 | 793 | 994 | 1 063 | 1 031 | 400 | 380 | 1 209 | 1 539 |
| Salt | " | 2 211 | 7 219 | 4 020 | 3 060 | 3 092 | 4 528 | 5 387 | 5 901 | 3 929 | 6 343 | 9 383 | 6 972 |
| Processed rice | " | 11 260 | 10 384 | 11 584 | 14 246 | 15 156 | 16 040 | 16 185 | 17 392 | 21 254 | 18 915 | 18 940 | 18 787 |
| **Beverages** | | | | | | | | | | | | | |
| Beer | 1 000 lts. | 26 156 | 23 314 | 21 840 | 17 212 | 14 527 | 13 096 | 14 696 | 16 854 | 16 359 | 15 419 | 14 850 | 15 268 |
| Other alcoholic bever. | 1 000 " | 2 950 | 3 008 | 2 111 | 2 580 | 2 670 | 2 425 | 2 306 | 2 389 | 2 153 | 2 186 | 2 156 | 2 492 |
| Carbonated beverages | 1 000 crates | 2 481 | 2 229 | 2 379 | 2 634 | 2 274 | 2 020 | 2 436 | 2 826 | 2 806 | 2 475 | 2 551 | 2 571 |
| **Wearing apparel** | | | | | | | | | | | | | |
| Footwear (thousands) | pairs | 157 | 209 | 230 | 225 | 205 | 241 | 243 | 292 | 298 | 317 | 385 | 426 |
| **Construction materials** | | | | | | | | | | | | | |
| Cement | 1 000 tons | - | - | - | 46 | 59 | 56 | 80 | 103 | 88 | 85 | 80 | 76 |
| Sawn wood | 1 000 square metres | 184 | 223 | 213 | 370 | 366 | 765 | 1 208 | 1 765 | 1 987 | 892 | 1 202 | 807 |
| Tiles | Thousands | 2 854 | 2 383 | 2 130 | 1 745 | 1 133 | 1 567 | 1 517 | 1 252 | 2 049 | 2 264 | 2 274 | 3 273 |
| Paints | 1 000 lts. | | 389 | 358 | 273 | 266 | 427 | 359 | 244 | 210 | 165 | 204 | 265 |

Source: See text of appendix.

Table B-8

PANAMA: GROSS VALUE OF PRODUCTION OF CERTAIN INDUSTRIAL PRODUCTS, 1945-1956

(Thousands of balboas at 1950 prices)

| Product | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 30 420 | 34 702 | 37 159 | 36 336 | 37 869 | 39 480 | 39 976 | 49 891 | 49 306 | 47 098 | 48 195 | 49 221 |
| Foodstuffs | 9 203 | 9 818 | 11 055 | 11 549 | 11 644 | 13 610 | 14 865 | 16 144 | 16 982 | 17 746 | 17 992 | 18 439 |
| Evaporated milk | - | - | 69 | 214 | 315 | 550 | 642 | 784 | 1 167 | 1 273 | 1 256 | 1 867 |
| Condensed milk | 330 | 331 | 355 | 196 | 148 | 96 | 122 | 120 | 124 | 86 | 182 | 151 |
| Sugar | 953 | 1 352 | 1 777 | 2 275 | 2 328 | 2 924 | 3 340 | 3 914 | 3 814 | 4 064 | 3 346 | 3 378 |
| Tomato paste | - | - | - | - | 32 | 27 | 28 | 49 | 75 | 279 | 206 | 300 |
| Tomato sauce | - | - | - | | 16 | 16 | 28 | 63 | 91 | 136 | 230 | 218 |
| Ice | 664 | 702 | 643 | 646 | 566 | 531 | 527 | 640 | 648 | 663 | 511 | 525 |
| Edible oils and fats | 104 | 296 | 544 | 615 | 448 | 561 | 600 | 582 | 226 | 215 | 683 | 869 |
| Processed rice | 1 986 | 1 831 | 2 043 | 2 512 | 2 673 | 2 829 | 2 854 | 3 067 | 3 748 | 3 336 | 3 341 | 3 313 |
| Bakery products | 4 947 | 4 915 | 5 305 | 4 782 | 4 815 | 5 677 | 6 268 | 6 268 | 6 555 | 7 017 | 7 474 | 7 190 |
| Others | 219 | 391 | 319 | 309 | 302 | 399 | 456 | 657 | 534 | 677 | 763 | 628 |
| Beverages | 14 287 | 13 319 | 11 678 | 11 276 | 10 303 | 9 288 | 9 952 | 11 058 | 10 539 | 10 017 | 9 875 | 10 521 |
| Beer | 7 586 | 6 761 | 6 334 | 4 992 | 4 213 | 3 798 | 4 262 | 4 888 | 4 744 | 4 472 | 4 307 | 4 428 |
| Other alcoholic beverages | 4 444 | 4 530 | 3 179 | 3 887 | 4 021 | 3 652 | 3 473 | 3 599 | 3 242 | 3 292 | 3 247 | 3 753 |
| Carbonated beverages | 2 257 | 2 028 | 2 165 | 2 397 | 2 069 | 1 838 | 2 217 | 2 571 | 2 553 | 2 253 | 2 321 | 2 340 |
| Wearing apparel | 6 359 | 10 760 | 13 680 | 11 273 | 13 355 | 13 400 | 10 681 | 16 262 | 16 021 | 15 192 | 15 862 | 16 328 |
| Footwear | 585 | 755 | 854 | 861 | 781 | 900 | 934 | 1 124 | 1 134 | 1 201 | 1 469 | 1 623 |
| Textiles | 5 774 | 10 005 | 12 826 | 10 412 | 12 574 | 12 500 | 9 747 | 15 138 | 14 887 | 13 991 | 14 393 | 14 705 |
| Construction materials | 571 | 805 | 746 | 2 238 | 2 567 | 3 182 | 4 478 | 5 827 | 5 764 | 4 143 | 4 466 | 3 933 |
| Cement | - | - | - | 1 365 | 1 773 | 1 683 | 2 406 | 3 075 | 2 634 | 2 547 | 2 412 | 2 286 |
| Sawn wood | 258 | 312 | 299 | 518 | 512 | 1 070 | 1 691 | 2 470 | 2 780 | 1 249 | 1 683 | 1 130 |
| Tiles | 313 | 262 | 234 | 192 | 124 | 172 | 167 | 137 | 225 | 249 | 250 | 359 |
| Paints | - | 231 | 213 | 163 | 158 | 254 | 214 | 145 | 125 | 98 | 121 | 158 |
| Indices | | | | | | | | | | | | |
| Total | 77.1 | 87.9 | 94.1 | 92.0 | 95.9 | 100.0 | 101.3 | 124.8 | 124.9 | 119.3 | 122.1 | 124.7 |
| Foodstuffs | 67.6 | 72.1 | 81.2 | 84.9 | 85.6 | 100.0 | 109.2 | 118.6 | 124.8 | 130.4 | 132.2 | 135.5 |
| Beverages | 153.8 | 143.4 | 125.7 | 121.4 | 110.9 | 100.0 | 107.1 | 119.0 | 113.5 | 107.8 | 106.3 | 113.3 |
| Wearing apparel | 47.4 | 80.3 | 102.1 | 84.1 | 99.7 | 100.0 | 79.7 | 121.4 | 119.6 | 113.4 | 118.4 | 121.8 |
| Construction materials | 17.9 | 25.3 | 23.4 | 70.3 | 80.7 | 100.0 | 140.7 | 183.1 | 181.1 | 130.2 | 140.3 | 123.6 |

Table B-9

PANAMA: GROSS VALUE OF CERTAIN CONSTRUCTION MATERIALS UTILIZED, 1945-56

(Thousands of balboas at 1950 prices)

| Materials | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 7 995 | 7 415 | 9 037 | 6 959 | 6 013 | 6 120 | 6 075 | 6 765 | 7 537 | 7 904 | 8 981 | 9 208 |
| Indice, 1950 = 100 | 130.6 | 121.2 | 147.7 | 113.7 | 98.3 | 100.0 | 99.3 | 110.5 | 123.2 | 129.2 | 146.7 | 150.5 |
| Portland cement | 1 852 | 1 730 | 2 184 | 1 884 | 1 808 | 1 949 | 1 845 | 2 148 | 2 286 | 2 699 | 2 655 | 2 651 |
| White cement | 33 | 11 | 42 | 26 | 23 | 40 | 43 | 28 | 49 | 50 | 75 | 55 |
| Building timber | 2 480 | 2 620 | 2 541 | 1 838 | 1 699 | 1 556 | 1 920 | 2 614 | 3 017 | 1 485 | 2 108 | 1 656 |
| Roof boards | 53 | 76 | 117 | 66 | 78 | 89 | 62 | 88 | 76 | 88 | 94 | 126 |
| Window glass | 126 | 101 | 230 | 117 | 117 | 129 | 120 | 119 | 213 | 236 | 290 | 386 |
| Iron and steel structural shapes | 86 | 218 | 278 | 227 | 103 | 107 | 113 | 136 | 93 | 544 | 200 | 539 |
| Unions, pipes etc. | 386 | 201 | 265 | 229 | 253 | 108 | 40 | 177 | 147 | 304 | 874 | 667 |
| Copper accessories - tubes | 230 | 182 | 411 | 384 | 214 | 166 | 251 | 326 | 155 | 310 | 422 | 523 |
| Copper pipes and tubes | 110 | 171 | 126 | 39 | 71 | 25 | 41 | 50 | 59 | 114 | 53 | 185 |
| Curtain-rails, etc. | 24 | 36 | 19 | - | 49 | 268 | 115 | 85 | 28 | 240 | - | 43 |
| Wall and floor tiles | 103 | 99 | - | 18 | - | 159 | 31 | 10 | 4 | 17 | 16 | 3 |
| Water closets, urinals, etc. | 409 | 172 | 214 | 313 | 186 | 111 | 80 | 63 | 21 | 41 | 36 | 51 |
| Sinks, iron basins | 57 | 86 | 164 | 122 | 40 | 46 | 48 | 48 | 40 | 51 | 56 | 68 |
| Iron doors and windows | 35 | 115 | 243 | 151 | 126 | 103 | 80 | 41 | 45 | 54 | 43 | 27 |
| Nails, tacks and brads | 205 | 195 | 265 | 172 | 239 | 238 | 160 | 203 | 193 | 214 | 255 | 298 |
| Locks | 145 | 91 | 99 | 145 | 53 | 84 | 61 | 84 | 53 | 99 | 91 | 106 |
| Asbestos sheets and boards | - | 26 | 150 | 37 | 13 | 26 | 3 | 21 | 68 | 197 | 225 | 230 |
| Refractory bricks | 30 | 119 | 30 | 64 | 22 | 38 | 32 | 74 | 31 | 16 | 25 | 16 |
| Forged iron and steel bars | 934 | 424 | 801 | 400 | 513 | 405 | 540 | 78 | 421 | 520 | 674 | 733 |
| Sand | 197 | 246 | 321 | 275 | 145 | 147 | 184 | 106 | 151 | 172 | 240 | 275 |
| Stone | 186 | 234 | 303 | 260 | 136 | 154 | 139 | 128 | 182 | 204 | 299 | 210 |
| Tiles | 314 | 262 | 234 | 192 | 125 | 172 | 167 | 138 | 205 | 249 | 250 | 360 |

Source: See text of appendix B.

Table B-10

PANAMA: GROSS PRODUCT OF CONSTRUCTION, 1945-56

| Year | Millions of balboas at 1950 prices | | | Index: 1950 = 100 | | |
|---|---|---|---|---|---|---|
| | Total | Public | Private | Total | Public | Private |
| 1945 | 12.3 | 7.8 | 4.5 | 130.6 | 196.2 | 82.9 |
| 1946 | 11.4 | 5.7 | 5.7 | 121.2 | 143.4 | 105.0 |
| 1947 | 13.9 | 5.8 | 8.1 | 147.7 | 144.9 | 149.7 |
| 1948 | 10.7 | 2.8 | 7.9 | 113.7 | 69.8 | 145.7 |
| 1949 | 9.2 | 1.8 | 7.4 | 98.3 | 43.8 | 138.0 |
| 1950 | 9.4 | 4.0 | 5.4 | 100.0 | 100.0 | 100.0 |
| 1951 | 9.3 | 3.0 | 6.3 | 99.3 | 76.0 | 116.3 |
| 1952 | 10.4 | 4.0 | 6.4 | 110.5 | 99.4 | 118.6 |
| 1953 | 11.6 | 3.6 | 8.0 | 123.2 | 89.0 | 148.1 |
| 1954 | 12.1 | 2.8 | 9.3 | 129.2 | 69.4 | 172.7 |
| 1955 | 13.8 | 3.9 | 9.9 | 146.7 | 96.5 | 183.3 |
| 1956 | 14.1 | 6.5 | 7.6 | 150.5 | 162.4 | 141.9 |

Source: See text of appendix B.

/Table B-11

Table B-11

PANAMA: PHYSICAL PRODUCTION OF ELECTRICITY AND GAS, 1945-56 a/

| Year | Electricity (thousands of kWh) | | | Gas (millions of cubic feet) |
|---|---|---|---|---|
| | Total | Cities of Panama and Colón | Remainder of country | |
| 1945 | 53 600 | 45 600 | 8 000 | 822.6 |
| 1946 | 58 600 | 48 700 | 9 900 | 748.2 |
| 1947 | 65 900 | 53 800 | 12 100 | 736.6 |
| 1948 | 69 800 | 56 800 | 13 000 | 734.4 |
| 1949 | 73 000 | 58 100 | 14 900 | 736.4 |
| 1950 | 82 900 | 64 900 | 18 000 | 667.2 |
| 1951 | 91 100 | 69 900 | 21 200 | 652.9 |
| 1952 | 101 600 | 76 400 | 25 200 | 672.0 |
| 1953 | 108 100 | 85 100 | 23 000 | 667.0 |
| 1954 | 114 500 | 89 400 | 25 100 | 638.4 |
| 1955 | 125 500 | 98 600 | 26 900 | 641.8 |
| 1956 | 131 000 | 107 800 | 23 200 | 619.2 |

Source: See text of appendix B.

a/ Total production less losses.

/Table B-12

Table B-12

PANAMA: GROSS VALUE OF PRODUCTION OF ELECTRICITY, GAS AND WATER

(Thousands of balboas at 1950 prices)

| Year | Total | | Electricity | Gas | Water |
|---|---|---|---|---|---|
| | Index 1950=100 | Value | | | |
| 1945 | 74.1 | 4 101 | 2 770 | 1 171 | 160 |
| 1946 | 77.4 | 4 283 | 3 050 | 1 065 | 168 |
| 1947 | 84.5 | 4 677 | 3 447 | 1 049 | 181 |
| 1948 | 88.4 | 4 892 | 3 654 | 1 046 | 192 |
| 1949 | 91.9 | 5 085 | 3 845 | 1 048 | 192 |
| 1950 | 100.0 | 5 534 | 4 386 | 950 | 198 |
| 1951 | 108.2 | 5 987 | 4 846 | 930 | 211 |
| 1952 | 119.5 | 6 613 | 5 432 | 957 | 224 |
| 1953 | 124.6 | 6 898 | 5 711 | 950 | 237 |
| 1954 | 130.4 | 7 218 | 6 062 | 909 | 247 |
| 1955 | 141.1 | 7 811 | 6 634 | 914 | 263 |
| 1956 | 144.4 | 7 992 | 6 837 | 882 | 273 |

Source: See text of appendix B.

/Table B-13

Table B-13

PANAMA: INDICES OF GROSS PRODUCT OF TRANSPORT, STORAGE AND COMMUNICATIONS, 1945-56

(1950 = 100)

| Branch of activity | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Index a/ | 84.0 | 89.1 | 83.2 | 85.7 | 86.6 | 100.0 | 94.1 | 96.6 | 105.0 | 119.3 | 114.3 | 142.9 |
| Transport | | | | | | | | | | | | |
| Rail | | | | | | | | | | | | |
| Passengers carried (thousands) | 582 | 612 | 624 | 676 | 645 | 745 | 782 | 751 | 701 | 707 | 881 | 965 |
| Index | 78.1 | 82.1 | 83.8 | 90.7 | 86.6 | 100.0 | 105.0 | 100.8 | 94.1 | 94.9 | 118.2 | 129.5 |
| Freight carried (thousands of tons) | 46 | 48 | 31 | 30 | 26 | 21 | 20 | 22 | 27 | 39 | 39 | 40 |
| Index | 219.0 | 228.6 | 147.6 | 142.9 | 123.8 | 100.0 | 95.2 | 104.8 | 128.6 | 185.7 | 185.7 | 190.5 |
| Road | | | | | | | | | | | | |
| Passenger vehicles in Republic | 2 475 | 2 649 | 2 085 | 1 983 | 2 210 | 2 493 | 2 172 | 2 350 | 2 290 | 2 525 | 2 827 | 3 435 |
| Index | 99.3 | 106.3 | 83.6 | 79.5 | 88.6 | 100.0 | 87.1 | 94.3 | 91.9 | 101.3 | 113.4 | 137.8 |
| Total capacity of haulage vehicles in Republic(tons) | 3 113 | 3 390 | 3 297 | 3 479 | 3 105 | 4 182 | 3 608 | 3 527 | 3 302 | 4 487 | 4 086 | 4 714 |
| Index | 74.4 | 81.1 | 78.8 | 83.2 | 74.2 | 100.0 | 86.3 | 84.3 | 79.0 | 107.3 | 97.7 | 112.7 |
| Sea | | | | | | | | | | | | |
| Passengers carried (thousands) | 41 | 43 | 42 | 20 | 15 | 18 | 20 | 20 | 24 | 22 | 18 | 22 |
| Index | 227.8 | 238.9 | 233.3 | 111.1 | 83.3 | 100.0 | 111.1 | 111.1 | 133.3 | 122.2 | 100.0 | 122.2 |
| Freight carried (thousands of quintals) | 387 | 414 | 449 | 921 | 868 | 939 | 856 | 718 | 1 050 | 1 017 | 410 | 988 |
| Index | 41.2 | 44.1 | 47.8 | 98.1 | 92.4 | 100.0 | 91.2 | 76.5 | 111.8 | 108.3 | 43.7 | 105.2 |
| Air | | | | | | | | | | | | |
| Residents of Panama who bought tickets to leave the country | 7 900 | 8 096 | 10 649 | 8 786 | 9 536 | 11 292 | - | - | - | - | - | - |
| Movement of passengers in Tocumen airport | - | - | - | - | - | 97 909 | 113 149 | 132 277 | 133 809 | 144 615 | 162 713 | 183 583 |
| Index | 70.0 | 71.7 | 94.3 | 77.6 | 84.5 | 100.0 | 115.6 | 135.1 | 136.7 | 147.7 | 166.2 | 187.5 |

Table B-13 (continued)

| Branch of activity | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Communications | | | | | | | | | | | | |
| Number of private telephones | 9 234 | 9 697 | 10 266 | 10 888 | 11 337 | 12 090 | 13 811 | 15 276 | 16 532 | 16 666 | 18 969 | 20 350 |
| Index | 76.4 | 80.2 | 84.9 | 96.1 | 93.8 | 100.0 | 114.2 | 126.4 | 136.7 | 137.8 | 157.1 | 168.3 |
| Wages paid by Government b/ | 19 144 | 18 323 | 20 099 | 19 884 | 18 361 | 22 513 | 22 669 | 21 240 | 24 357 | 28 029 | 26 954 | 28 670 |
| Index | 85.0 | 81.4 | 89.3 | 88.3 | 81.6 | 100.0 | 100.7 | 94.3 | 108.2 | 124.5 | 119.7 | 127.3 |
| Storage | | | | | | | | | | | | |
| Product of transport and communications (millions of balboas) | 9 967 | 10 514 | 9 879 | 10 094 | 10 195 | 11 033 | 11 162 | 11 443 | 12 246 | 13 415 | 12 770 | 15 943 |
| Product of Colón Free Zone | - | - | - | - | - | - | - | - | 164 | 667 | 844 | 1 044 |
| Index | 84.2 | 88.9 | 83.5 | 85.3 | 86.2 | 100.0 | 94.3 | 96.7 | 331.3 | 1 067.5 | 1 280.3 | 1 584.7 |

Source: See text of appendix B.

a/ Weighting: Rail: passenger 0.6, freight 0.2; Road: passenger 39.7, freight 13.8; Sea: passenger 3.0, freight 16.9; Air: 12.6; Communications: private 3.3, public 9.3; Storage: 0.6.

b/ Excluding wages paid in capital formation.

Table B-14

PANAMA: INDEX OF GROSS PRODUCT OF WHOLESALE AND RETAIL TRADE, 1945-56

(Values in millions of balboas at 1950 prices)

| Year | Index | Total value | Registered c.i.f. imports | Gross product of manufacturing industries | Agricultural production | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Difference | Less: Gross product of bananas for export | Less: Gross product of fish for export | Total |
| 1945 | 86.6 | 126.1 | 63.5 | 21.8 | 40.8 | 11.0 | - | 51.8 |
| 1946 | 102.5 | 149.2 | 83.2 | 24.9 | 41.1 | 17.9 | - | 59.0 |
| 1947 | 108.0 | 157.3 | 87.1 | 26.6 | 43.6 | 18.1 | - | 61.7 |
| 1948 | 94.1 | 137.0 | 69.3 | 26.0 | 41.7 | 20.0 | - | 61.7 |
| 1949 | 95.6 | 319.2 | 66.5 | 27.1 | 45.6 | 20.1 | - | 65.7 |
| 1950 | 100.0 | 145.6 | 70.3 | 28.3 | 47.0 | 17.8 | 0.2 | 65.0 |
| 1951 | 101.6 | 148.0 | 70.0 | 28.7 | 49.3 | 16.8 | 0.7 | 66.8 |
| 1952 | 112.5 | 163.8 | 78.4 | 35.3 | 50.1 | 15.2 | 1.3 | 66.6 |
| 1953 | 114.7 | 167.0 | 75.7 | 35.3 | 56.0 | 16.2 | 2.8 | 75.0 |
| 1954 | 117.5 | 171.1 | 82.3 | 33.8 | 55.0 | 19.1 | 2.2 | 76.3 |
| 1955 | 122.0 | 177.7 | 85.3 | 34.5 | 57.9 | 22.8 | 2.3 | 83.0 |
| 1956 | 125.5 | 182.7 | 90.0 | 35.3 | 57.4 | 19.5 | 3.3 | 80.2 |

Source: See text of appendix B.

/Table B-15

Table B-15

PANAMA: INDEX OF GROSS PRODUCT OF BANKING, INSURANCE AND REAL ESTATE, 1945-56

(1950 = 100)

| Year | Sectoral index a/ | Banks | | Insurance | | Real estate | |
|---|---|---|---|---|---|---|---|
| | | Index | Commercial product (millions of balboas) | Index | Value of gross premiums (thousands of balboas) | Index | Deeds registered (units) |
| 1945 | 81.1 | 86.6 | 35.5 | 61.0 | 1 364 | 82.9 | 8 531 |
| 1946 | 96.2 | 102.5 | 42.0 | 73.0 | 1 631 | 99.8 | 10 270 |
| 1947 | 103.8 | 108.0 | 44.3 | 79.4 | 1 774 | 121.4 | 12 498 |
| 1948 | 94.4 | 94.1 | 38.6 | 90.7 | 2 028 | 91.6 | 9 424 |
| 1949 | 98.1 | 95.6 | 39.2 | 111.3 | 2 488 | 90.7 | 9 333 |
| 1950 | 100.0 | 100.0 | 41.0 | 100.0 | 2 235 | 100.0 | 10 292 |
| 1951 | 109.4 | 101.6 | 41.7 | 126.1 | 2 818 | 112.0 | 11 522 |
| 1952 | 118.9 | 112.5 | 46.1 | 147.3 | 3 292 | 97.3 | 10 011 |
| 1953 | 122.7 | 114.7 | 47.0 | 163.9 | 3 664 | 102.4 | 10 537 |
| 1954 | 132.1 | 117.5 | 48.2 | 199.8 | 4 465 | 101.3 | 10 425 |
| 1955 | 132.1 | 122.0 | 50.0 | 172.8 | 3 862 | 118.0 | 12 144 |
| 1956 | 145.3 | 125.5 | 51.5 | 218.8 | 4 890 | 130.5 | 13 431 |

Source: See text of appendix B.

a/ Weighting: Banking 70 per cent, insurance 20 per cent, real estate 10 per cent.

Table B-16

PANAMA: INDEX OF GROSS PRODUCT OF HOUSING, 1945-56

| Year | Index 1950=100 | Dwellings inventory | Number of dwellings built | Index of product of private building |
|---|---|---|---|---|
| 1945 | 81.4 | 144 108 | 4 936 | 95.2 |
| 1946 | 84.2 | 149 044 | 5 444 | 105.0 |
| 1947 | 87.3 | 154 488 | 7 762 | 149.7 |
| 1948 | 91.7 | 162 250 | 7 555 | 145.7 |
| 1949 | 96.0 | 169 805 | 7 155 | 138.0 |
| 1950 | 100.0 | 176 960 | 5 185 | 100.0 |
| 1951 | 102.9 | 182 145 | 6 030 | 116.3 |
| 1952 | 106.3 | 188 175 | 6 149 | 118.6 |
| 1953 | 109.8 | 194 324 | 7 679 | 148.1 |
| 1954 | 114.2 | 202 003 | 8 954 | 172.7 |
| 1955 | 119.2 | 210 957 | 9 504 | 183.3 |
| 1956 | 124.6 | 220 461 | 7 358 | 141.9 |

Source: See text of appendix B.

/Table B-17

Table B-17

PANAMA: INDEX OF GROSS PRODUCT OF PUBLIC ADMINISTRATION, 1945-56

| Year | Index 1950 = 100 | Number of administrative employees | | |
|---|---|---|---|---|
| | | Total | Central Government | Municipalities |
| 1945 | 90.2 | 2 043 | 1 495 | 548 |
| 1946 | 96.8 | 2 194 | 1 624 | 570 |
| 1947 | 97.0 | 2 197 | 1 606 | 591 |
| 1948 | 100.2 | 2 271 | 1 659 | 612 |
| 1949 | 98.7 | 2 237 | 1 604 | 633 |
| 1950 | 100.0 | 2 266 | 1 613 | 653 |
| 1951 | 98.8 | 2 239 | 1 621 | 618 |
| 1952 | 99.4 | 2 252 | 1 654 | 598 |
| 1953 | 100.8 | 2 284 | 1 659 | 625 |
| 1954 | 99.9 | 2 264 | 1 637 | 627 |
| 1955 | 113.1 | 2 563 | 1 915 | 648 |
| 1956 | 116.8 | 2 647 | 1 978 | 669 |

Source: See text of appendix B.

/Table B-18

Table B-18

PANAMA: INDEX OF GROSS PRODUCT OF PUBLIC AND PRIVATE SERVICES, 1945-56

(1950 = 100)

| Items | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Index a/ | 107.1 | 109.0 | 99.3 | 94.6 | 92.7 | 100.0 | 103.4 | 104.4 | 110.7 | 121.4 | 121.9 | 131.1 |
| Private services | | | | | | | | | | | | |
| Medical and sanitary services | | | | | | | | | | | | |
| Number of doctors | 144 | 164 | 194 | 197 | 201 | 218 | 235 | 232 | 229 | 238 | 266 | 294 |
| Index | 66.1 | 75.2 | 89.0 | 90.4 | 92.2 | 100.0 | 107.8 | 106.4 | 105.0 | 109.2 | 122.0 | 134.9 |
| Domestic services | | | | | | | | | | | | |
| Private consumption expenditure (millions of balboas) b/ y c/ | 163 | 187 | 202 | 185 | 191 | 209 | 218 | 228 | 226 | 238 | 252 | 259 |
| Index | 78.0 | 90.0 | 97.0 | 89.0 | 91.0 | 100.0 | 104.0 | 109.0 | 108.0 | 114.0 | 121.0 | 124.0 |
| Public entertainment | | | | | | | | | | | | |
| Sales of tickets (thousands of balboas) c/ | 11 184 | 9 808 | 9 525 | 9 331 | 10 158 | 8 769 | 8 714 | 9 810 | 10 263 | 10 965 | 11 975 | 11 315 |
| Index | 127.5 | 111.8 | 108.6 | 106.4 | 115.8 | 100.0 | 99.3 | 111.8 | 117.0 | 125.0 | 136.5 | 129.0 |
| Services of architects and engineers | | | | | | | | | | | | |
| Product of private building (thousands of balboas) c/ | 9 697 | 10 696 | 15 243 | 14 834 | 14 048 | 10 182 | 11 841 | 12 071 | 15 081 | 17 587 | 18 661 | 14 444 |
| Index | 95.2 | 105.0 | 149.7 | 145.7 | 138.0 | 100.0 | 116.3 | 118.6 | 148.1 | 172.7 | 183.3 | 141.9 |
| Private education | | | | | | | | | | | | |
| Enrolments in private schools | 12 402 | 12 758 | 12 849 | 12 660 | 13 117 | 13 319 | 13 287 | 14 288 | 15 288 | 17 327 | 19 348 | 21 055 |
| Index | 93.1 | 95.8 | 96.5 | 95.1 | 98.5 | 100.0 | 99.8 | 107.3 | 114.8 | 130.1 | 145.3 | 158.1 |
| Hotels | | | | | | | | | | | | |
| Tourist expenditure in Panama (thousands of balboas) d/ c/ | 7 629 | 8 371 | 5 672 | 5 193 | 5 170 | 5 436 | 5 674 | 6 786 | 6 882 | 7 917 | 7 218 | 9 348 |
| Index | 140.3 | 154.0 | 104.3 | 95.5 | 95.1 | 100.0 | 104.4 | 124.9 | 126.6 | 145.6 | 132.8 | 172.0 |
| Restaurants | | | | | | | | | | | | |
| Index of tourist expenditure in Panama (50 per cent) | 140.3 | 154.0 | 104.3 | 95.5 | 95.1 | 100.0 | 104.4 | 124.9 | 126.6 | 145.6 | 132.8 | 172.0 |
| Foodstuffs quantum index (50 per cent) e/ | 78.0 | 84.7 | 90.4 | 88.7 | 92.4 | 100.0 | 103.5 | 104.7 | 104.9 | 111.4 | 113.8 | 114.3 |
| Index | 109.2 | 119.4 | 97.4 | 92.1 | 93.8 | 100.0 | 104.0 | 114.8 | 115.8 | 128.5 | 123.3 | 143.2 |
| *Other services b/ d/* | | | | | | | | | | | | |
| Subtotal of services (thousands of balboas) f/ | 6379.6 | 6609.1 | 6375.9 | 6222.2 | 6413.3 | 6409.4 | 6648.3 | 7129.7 | 7335.4 | 8009.1 | 8436.0 | 9103.8 |
| Index | 99.5 | 103.1 | 99.5 | 99.1 | 100.1 | 100.0 | 103.7 | 111.2 | 114.4 | 125.0 | 131.6 | 142.0 |

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Table B-18 (continued)

| Items | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bars and cabarets | | | | | | | | | | | | |
| Index of value of production and imports of alcoholic beverages (50 per cent) | 148.8 | 162.4 | 132.5 | 122.6 | 112.0 | 100.0 | 128.4 | 117.1 | 124.7 | 115.3 | 115.7 | 125.2 |
| Index of expenditures of foreign visitors to Panama (50 per cent) | 300.0 | 287.9 | 106.9 | 93.1 | 100.0 | 100.0 | 100.0 | 124.1 | 122.4 | 141.4 | 129.3 | 165.5 |
| Index | 224.4 | 225.2 | 119.7 | 107.9 | 106.0 | 100.0 | 114.2 | 120.6 | 123.6 | 128.4 | 122.5 | 145.3 |
| Indirect taxes | | | | | | | | | | | | |
| Gross product at factor cost of private services (millions of balboas) c/ | 25.4 | 26.6 | 22.0 | 20.6 | 21.0 | 21.4 | 22.7 | 24.1 | 24.4 | 26.0 | 26.9 | 29.2 |
| Index | 118.8 | 124.6 | 102.9 | 96.4 | 98.3 | 100.0 | 106.1 | 112.5 | 114.1 | 121.7 | 125.8 | 136.4 |
| Public services | | | | | | | | | | | | |
| Police, health and educational services | | | | | | | | | | | | |
| Wages paid by Government (thousands of balboas) c/ g/ | 19 144 | 18 323 | 20 099 | 19 884 | 18 361 | 22 513 | 22 669 | 21 240 | 24 357 | 28 029 | 26 954 | 28 670 |
| Index | 85.0 | 81.4 | 89.3 | 88.3 | 81.6 | 100.0 | 100.7 | 94.3 | 108.2 | 124.5 | 119.7 | 127.3 |
| Amusement services-race-track | | | | | | | | | | | | |
| Total bets placed (thousands of balboas) c/ | 12 159 | 11 392 | 10 726 | 9 725 | 9 071 | 7 557 | 7 241 | 6 123 | 6 275 | 6 396 | 6 118 | 6 150 |
| Index | 160.9 | 150.8 | 141.9 | 128.7 | 120.0 | 100.0 | 95.5 | 81.0 | 83.0 | 84.6 | 81.0 | 81.4 |
| Amusement services-lottery | | | | | | | | | | | | |
| Sales of lottery tickets (thousands of balboas) c/ | 31 299 | 31 593 | 30 044 | 27 579 | 25 688 | 23 722 | 21 687 | 21 839 | 22 522 | 22 950 | 23 564 | 25 398 |
| Index | 131.9 | 133.2 | 126.7 | 116.3 | 108.3 | 100.0 | 91.4 | 92.1 | 94.9 | 96.7 | 99.3 | 107.1 |
| Depreciation | | | | | | | | | | | | |
| Net product of public services (millions of balboas) c/ | 14.4 | 13.9 | 14.8 | 14.5 | 13.4 | 15.7 | 15.6 | 14.7 | 16.7 | 19.0 | 18.4 | 19.5 |
| Index | 91.5 | 88.3 | 94.3 | 92.1 | 85.2 | 100.0 | 99.6 | 93.8 | 106.3 | 120.8 | 116.8 | 124.3 |

Source: See text of appendix B. For notes see following page.

Notes to table B-18

a/ Weighting: Medical services 4.6; Domestic services 18.2; Public entertainment 3.2; Services of architects 0.6; Private education 2.4; Hotels 1.0; Restaurants 3.7; Bars 11.1; Other services 7.2; Indirect taxes 4.9; Welfare services etc. 33.4; Racetrack 0.7; Lottery 4.2; Depreciation 4.8.

b/ Excluding domestic services.

c/ In balboas at 1950 prices.

d/ Excluding military visitors.

e/ Corresponds to foodstuff expenditure.

f/ Including services of lawyers, hairdressers, photographers, gardeners and laundries.

g/ Excluding wages paid in Government capital formation.

/Table B-19

Table B-19

PANAMA: WAGES PAID IN CANAL ZONE TO WORKERS RESIDENT IN PANAMA, 1945-56 a/

(Millions of balboas)

| Year | At current prices | Wage index | At 1950 prices |
|---|---|---|---|
| 1945 | 28.5 | 60.1 | 47.4 |
| 1946 | 27.4 | 80.8 | 33.9 |
| 1947 | 25.3 | 85.4 | 29.6 |
| 1948 | 20.5 | 93.7 | 21.9 |
| 1949 | 17.6 | 97.8 | 18.0 |
| 1950 | 15.2 | 100.0 | 15.2 |
| 1951 | 15.9 | 110.4 | 14.4 |
| 1952 | 17.3 | 120.8 | 14.4 |
| 1953 | 18.6 | 127.1 | 14.7 |
| 1954 | 18.5 | 131.2 | 14.1 |
| 1955 | 20.2 | 133.2 | 15.1 |
| 1956 | 21.7 | 143.7 | 15.1 |

Source: See text of appendix B.

a/ Wages of regular employees.

/Table B-20

Table B-20

PANAMA: GROSS PRODUCT OF SALES OF SERVICES TO PANAMA CANAL ZONE, 1945-56

| Year | Millions of 1950 balboas | | | | Index 1950 = 100 | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | Regular wages | Sales of services | Contractors' employees | Total | Regular wages | Sales of services | Contractors' employees |
| 1945 | 55.5 | 47.4 | 4.1 | 4.0 | 277.5 | 311.8 | 141.4 | 210.5 |
| 1946 | 40.3 | 33.9 | 2.8 | 3.6 | 201.5 | 223.0 | 96.6 | 189.5 |
| 1947 | 34.9 | 29.6 | 2.3 | 3.0 | 174.5 | 194.7 | 79.3 | 157.9 |
| 1948 | 27.1 | 21.9 | 2.9 | 2.3 | 135.5 | 144.1 | 100.0 | 121.1 |
| 1949 | 23.2 | 18.0 | 3.1 | 2.1 | 116.0 | 118.4 | 106.9 | 110.5 |
| 1950 | 20.0 | 15.2 | 2.9 | 1.9 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1951 | 19.0 | 14.4 | 2.7 | 1.9 | 95.0 | 94.7 | 93.1 | 100.0 |
| 1952 | 19.0 | 14.4 | 2.5 | 2.1 | 95.0 | 94.7 | 86.2 | 110.5 |
| 1953 | 19.7 | 14.7 | 2.4 | 2.6 | 98.5 | 96.7 | 82.8 | 136.8 |
| 1954 | 17.3 | 14.1 | 2.0 | 1.2 | 86.5 | 92.8 | 69.0 | 63.2 |
| 1955 | 18.8 | 15.2 | 2.6 | 1.0 | 94.0 | 123.7 | 89.7 | 52.6 |
| 1956 | 20.1 | 15.1 | 4.3 | 0.7 | 100.5 | 132.2 | 148.3 | 36.8 |

Source: See text of appendix B.

/Table B-21

Table B-21

PANAMA: TOTAL IMPORTS, 1945-56

| | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Current values (thousands of balboas) | 71 426 | 82 889 | 102 528 | 86 719 | 80 102 | 80 416 | 86 166 | 95 532 | 93 678 | 95 445 | 100 253 | 112 703 |
| Registered imports | 52 588 | 64 776 | 85 682 | 73 152 | 68 438 | 70 281 | 75 531 | 83 999 | 81 207 | 83 163 | 86 848 | 97 938 |
| Purchases of ships and aircraft | - | - | 120 | - | - | 20 | 34 | - | 90 | - | - | 335 |
| Hospital services, Canal Zone | 29 | 29 | 28 | 37 | 48 | 69 | 93 | 90 | 90 | 90 | 90 | 90 |
| Purchases in commissaries, Canal Zone | 18 809 | 18 084 | 16 698 | 13 530 | 11 616 | 10 046 | 10 508 | 11 443 | 12 291 | 12 192 | 13 315 | 14 340 |
| Total quantum (thousands of balboas at 1950 prices) | 86 673 | 103 822 | 103 750 | 82 106 | 78 111 | 80 416 | 79 708 | 88 983 | 87 357 | 93 853 | 98 017 | 103 867 |
| Registered imports | 63 475 | 83 165 | 87 051 | 69 307 | 66 494 | 70 281 | 69 960 | 78 439 | 75 724 | 82 316 | 85 344 | 90 024 |
| Purchases of ships and aircraft | - | - | 122 | - | - | 20 | 31 | - | 84 | - | - | 308 |
| Hospital services, Canal Zone | 35 | 37 | 28 | 35 | 47 | 69 | 86 | 84 | 84 | 89 | 88 | 83 |
| Purchases in commissaries, Canal Zone | 23 163 | 20 620 | 16 549 | 12 764 | 11 570 | 10 046 | 9 631 | 10 460 | 11 465 | 11 448 | 12 585 | 13 452 |
| Unit value index (1950=100) | 82.4 | 79.8 | 98.8 | 105.6 | 102.5 | 100.0 | 108.1 | 107.4 | 107.2 | 101.7 | 102.3 | 108.5 |
| Registered imports | 82.8 | 77.9 | 98.4 | 105.5 | 102.9 | 100.0 | 108.0 | 107.1 | 107.2 | 101.0 | 101.8 | 108.8 |
| Purchases of ships and aircrafts | - | - | 98.4 | - | - | 100.0 | 108.0 | - | 107.2 | - | - | 108.8 |
| Hospital services, Canal Zone | 82.8 | 77.9 | 98.4 | 105.5 | 102.9 | 110.0 | 108.0 | 107.1 | 107.2 | 101.0 | 101.8 | 108.8 |
| Purchases in commissaries, Canal Zone | 81.2 | 87.7 | 100.9 | 106.0 | 100.4 | 100.0 | 109.1 | 109.4 | 107.2 | 106.5 | 105.8 | 106.6 |
| Quantum index (1950=100) | 107.8 | 129.1 | 129.0 | 102.1 | 97.1 | 100.0 | 99.1 | 110.7 | 108.6 | 116.7 | 121.9 | 129.2 |
| Registered imports | 90.3 | 118.3 | 123.9 | 98.6 | 94.6 | 100.0 | 99.5 | 111.6 | 107.7 | 117.1 | 121.4 | 128.1 |
| Purchases of ships and aircraft | - | - | 610.0 | - | - | 100.0 | 155.0 | - | 420.0 | - | - | 1 540.0 |
| Hospital services, Canal Zone | 50.7 | 53.6 | 40.6 | 50.7 | 68.1 | 100.0 | 124.6 | 121.7 | 121.7 | 130.0 | 127.5 | 120.3 |
| Purchases in commissaries, Canal Zone | 230.6 | 205.3 | 164.7 | 127.1 | 115.2 | 100.0 | 95.9 | 104.1 | 114.1 | 114.0 | 125.3 | 133.9 |

Source: See text of appendix B.

Table B-22

PANAMA: CURRENT VALUES OF REGISTERED C.I.F. IMPORTS, 1945-56

(Thousands of balboas)

| Group | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 52 588 | 64 776 | 85 682 | 73 152 | 68 438 | 70 281 | 75 531 | 83 999 | 81 207 | 83 163 | 86 848 | 97 938 |
| Non-durable consumer goods | 27 493 | 36 389 | 36 639 | 33 828 | 31 952 | 34 159 | 36 595 | 42 456 | 40 178 | 38 612 | 35 915 | 39 217 |
| Durable consumer goods | 6 470 | 8 280 | 11 246 | 10 159 | 10 294 | 11 286 | 10 389 | 9 977 | 10 703 | 10 706 | 12 774 | 14 467 |
| Fuels and lubricants | 1 638 | 2 070 | 3 421 | 4 471 | 3 997 | 5 100 | 5 782 | 6 894 | 6 892 | 7 105 | 8 559 | 8 165 |
| Raw materials for industry | 6 709 | 2 348 | 14 268 | 11 132 | 9 661 | 9 758 | 11 898 | 12 598 | 9 767 | 11 403 | 11 393 | 12 647 |
| Raw materials for capital goods | 1 323 | 1 260 | 2 299 | 1 619 | 1 613 | 1 314 | 1 266 | 1 261 | 1 533 | 1 970 | 2 232 | 3 175 |
| Construction materials | 3 395 | 4 079 | 6 040 | 3 650 | 2 626 | 1 745 | 2 286 | 1 935 | 1 699 | 2 135 | 3 004 | 4 080 |
| Capital goods for agriculture | 591 | 1 302 | 347 | 1 002 | 1 303 | 1 223 | 1 144 | 1 472 | 1 487 | 1 907 | 1 909 | 3 241 |
| Capital goods for industry and mining | 2 282 | 4 370 | 4 734 | 4 527 | 4 337 | 3 485 | 3 555 | 4 764 | 5 264 | 5 635 | 6 200 | 8 367 |
| Capital goods for transport | 1 182 | 1 902 | 1 876 | 2 194 | 2 003 | 1 437 | 1 681 | 1 611 | 2 088 | 2 007 | 2 415 | 3 324 |
| Miscellaneous | 1 505 | 2 774 | 4 811 | 567 | 650 | 772 | 936 | 1 032 | 1 594 | 1 714 | 2 446 | 1 252 |

Source: See text of appendix B.

Table B-23

PANAMA: QUANTUM OF REGISTERED C.I.F. IMPORTS, 1945-56

(Thousands of balboas at 1959 prices)

| Group | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 63 475 | 83 165 | 87 051 | 69 307 | 66 494 | 70 280 | 69 960 | 78 439 | 75 724 | 82 316 | 85 344 | 90 024 |
| Non-durable consumer goods | 27 628 | 37 446 | 34 858 | 30 065 | 31 020 | 34 159 | 33 709 | 41 110 | 37 950 | 37 177 | 37 252 | 38 814 |
| Durable consumer goods | 6 493 | 8 137 | 12 385 | 10 414 | 10 159 | 11 286 | 10 464 | 9 264 | 10 397 | 12 733 | 13 089 | 14 110 |
| Fuels and lubricants | 4 225 | 3 744 | 4 347 | 4 437 | 4 434 | 5 100 | 5 798 | 6 744 | 6 685 | 6 688 | 7 359 | 7 058 |
| Raw materials for industry | 8 104 | 9 580 | 14 168 | 9 635 | 8 958 | 9 758 | 10 423 | 9 801 | 8 123 | 9 849 | 10 002 | 10 440 |
| Raw materials for capital goods | 1 795 | 1 711 | 1 845 | 1 413 | 1 261 | 1 314 | 1 060 | 1 020 | 1 367 | 1 798 | 1 851 | 2 319 |
| Construction materials | 4 757 | 5 263 | 6 248 | 3 428 | 2 426 | 1 745 | 2 018 | 1 823 | 1 549 | 2 243 | 2 773 | 3 541 |
| Capital goods for agriculture | 773 | 2 471 | 336 | 992 | 1 084 | 1 223 | 959 | 1 824 | 1 284 | 1 611 | 2 004 | 2 937 |
| Capital goods for industry and mining | 4 845 | 6 709 | 4 972 | 6 124 | 4 606 | 3 485 | 3 095 | 4 373 | 5 457 | 6 336 | 6 413 | 7 203 |
| Capital goods for transport | 1 494 | 2 107 | 2 076 | 2 303 | 2 013 | 1 437 | 1 604 | 1 478 | 1 836 | 1 764 | 2 294 | 2 662 |
| Miscellaneous | 3 360 | 5 997 | 5 818 | 495 | 533 | 772 | 829 | 1 002 | 1 076 | 2 116 | 2 308 | 939 |

Source: See text of appendix B.

Table B-24

PANAMA: INDICES OF UNIT VALUE OF REGISTERED IMPORTS, 1945-56

(1950 = 100)

| Group | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 82.8 | 77.9 | 98.4 | 105.5 | 102.9 | 100.0 | 108.0 | 107.1 | 107.2 | 101.0 | 101.8 | 108.8 |
| Non-durable consumer goods | 99.5 | 97.2 | 105.1 | 112.5 | 103.0 | 100.0 | 108.6 | 103.3 | 105.9 | 103.8 | 96.4 | 101.0 |
| Durable consumer goods | 99.6 | 101.7 | 90.8 | 97.5 | 101.3 | 100.0 | 99.3 | 107.7 | 102.9 | 84.1 | 97.6 | 102.5 |
| Fuels and lubricants | 38.8 | 55.3 | 78.7 | 100.8 | 90.1 | 100.0 | 99.7 | 102.2 | 103.1 | 106.2 | 116.3 | 115.7 |
| Raw materials for industry | 82.8 | 24.5 | 100.7 | 115.5 | 107.8 | 100.0 | 114.1 | 128.5 | 120.2 | 115.8 | 113.9 | 121.1 |
| Raw materials for capital goods | 73.7 | 73.6 | 124.6 | 114.6 | 127.9 | 100.0 | 119.4 | 123.6 | 112.1 | 109.6 | 120.6 | 136.9 |
| Construction materials | 71.4 | 77.5 | 96.7 | 106.5 | 108.2 | 100.0 | 113.3 | 106.1 | 109.7 | 93.8 | 108.3 | 115.2 |
| Capital goods for agriculture | 76.4 | 52.7 | 103.3 | 101.0 | 120.2 | 100.0 | 119.3 | 80.7 | 115.8 | 118.4 | 95.2 | 110.4 |
| Capital goods for industry and mining | 47.1 | 65.1 | 95.2 | 73.9 | 94.1 | 100.0 | 114.9 | 108.9 | 96.5 | 88.9 | 96.7 | 116.2 |
| Capital goods for transport | 79.1 | 90.3 | 90.4 | 95.3 | 99.5 | 100.0 | 104.8 | 109.0 | 113.7 | 113.8 | 105.3 | 124.9 |
| Miscellaneous | 44.8 | 46.2 | 82.7 | 114.5 | 122.0 | 100.0 | 112.9 | 103.0 | 148.1 | 81.0 | 106.0 | 133.3 |

Source: See text of appendix B.

/Table B-25

Table B-25

PANAMA: DEFLATIONARY INDEX FOR EXPENDITURE OF WORKERS RESIDENT IN PANAMA IN CANAL ZONE STORES, 1945-56

| Year | Deflationary index 1950=100 | United States retail price index 1953=100 | | |
|---|---|---|---|---|
| | | Average a/ | Foodstuffs | Clothing and durable consumer goods |
| 1945 | 81.2 | 75.8 | 63.1 | 88.5 |
| 1946 | 87.7 | 81.8 | 71.3 | 92.3 |
| 1947 | 100.9 | 94.1 | 88.0 | 100.1 |
| 1948 | 106.0 | 98.9 | 94.4 | 103.4 |
| 1949 | 100.4 | 93.7 | 89.8 | 97.5 |
| 1950 | 100.0 | 93.3 | 90.5 | 96.0 |
| 1951 | 109.1 | 101.8 | 100.7 | 102.8 |
| 1952 | 109.4 | 102.1 | 103.7 | 100.4 |
| 1953 | 107.2 | 100.0 | 100.0 | 100.0 |
| 1954 | 106.5 | 99.4 | 99.5 | 99.2 |
| 1955 | 106.6 | 99.5 | 99.0 | 100.0 |

Source: U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States: 1956-57.

a/ Weighting: Foodstuffs: 50 per cent; Clothing and durable consumer goods: 50 per cent.

/Table B-26

Table B-26

PANAMA: TOTAL APPARENT CONSUMPTION, 1945-56

(Thousands of balboas at 1950 prices)

| Items | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 212 680 | 234 261 | 230 272 | 218 368 | 228 935 | 243 160 | 245 506 | 260 075 | 258 584 | 270 339 | 283 515 | 296 367 |
| Domestic production | 138 949 | 153 041 | 155 683 | 154 119 | 160 895 | 165 072 | 165 316 | 177 727 | 182 318 | 188 536 | 199 077 | 207 139 |
| Imports | 73 731 | 81 220 | 74 596 | 64 249 | 67 144 | 78 096 | 80 190 | 82 348 | 76 266 | 81 803 | 84 508 | 88 928 |
| 1. Foodstuffs | 68 091 | 73 964 | 79 009 | 77 519 | 80 700 | 87 352 | 90 448 | 91 476 | 91 647 | 97 326 | 99 406 | 99 848 |
| Domestic production | 51 602 | 58 105 | 60 324 | 62 984 | 65 917 | 68 540 | 68 834 | 70 090 | 73 915 | 77 281 | 80 552 | 80 232 |
| Imports | 16 489 | 15 859 | 18 685 | 14 535 | 14 783 | 18 812 | 21 614 | 21 386 | 17 732 | 20 045 | 18 854 | 19 616 |
| a. Bread and cereals | 16 059 | 15 208 | 18 184 | 18 492 | 17 351 | 19 280 | 21 510 | 22 168 | 23 736 | 22 904 | 24 319 | 23 069 |
| Production | 13 424 | 13 052 | 14 268 | 15 450 | 16 313 | 18 113 | 10 045 | 19 883 | 22 684 | 21 811 | 22 541 | 21 869 |
| Imports | 2 635 | 2 156 | 3 916 | 3 042 | 1 038 | 1 167 | 2 465 | 2 285 | 1 052 | 1 093 | 1 778 | 1 200 |
| b. Meat | 17 501 | 18 716 | 19 782 | 19 691 | 18 861 | 19 175 | 19 419 | 29 330 | 20 890 | 22 079 | 22 203 | 23 409 |
| Production | 16 023 | 16 780 | 18 389 | 18 607 | 17 590 | 17 551 | 17 862 | 17 608 | 19 121 | 20 368 | 20 067 | 21 099 |
| Imports | 1 478 | 1 936 | 1 393 | 1 084 | 1 271 | 1 624 | 1 557 | 1 722 | 1 769 | 1 711 | 2 136 | 2 310 |
| c. Fish | 654 | 676 | 1 042 | 1 103 | 1 283 | 1 360 | 1 522 | 1 596 | 1 617 | 1 756 | 1 997 | 1 922 |
| Production | 309 | 361 | 412 | 536 | 688 | 431 | 414 | 459 | 511 | 603 | 780 | 728 |
| Imports | 345 | 315 | 630 | 567 | 595 | 929 | 1 108 | 1 137 | 1 106 | 1 153 | 1 217 | 1 194 |
| d. Milk, cheese and eggs | 8 857 | 8 772 | 9 985 | 9 621 | 9 736 | 9 928 | 9 979 | 10 528 | 10 533 | 11 415 | 10 695 | 11 679 |
| Production | 6 487 | 6 612 | 7 111 | 7 017 | 7 071 | 7 337 | 7 458 | 7 600 | 8 469 | 8 691 | 8 848 | 9 905 |
| Imports | 2 370 | 2 160 | 2 874 | 2 604 | 2 665 | 2 591 | 2 521 | 2 928 | 2 064 | 2 724 | 1 847 | 1 774 |
| e. Oils and fats | 3 034 | 2 494 | 2 791 | 3 184 | 3 369 | 4 028 | 4 249 | 4 365 | 3 492 | 5 282 | 3 162 | 4 154 |
| Production | 138 | 393 | 721 | 816 | 594 | 744 | 796 | 772 | 300 | 284 | 904 | 1 151 |
| Imports | 2 896 | 2 101 | 2 070 | 2 368 | 2 775 | 3 284 | 3 453 | 3 593 | 3 192 | 4 998 | 2 258 | 3 003 |
| f. Fruits and vegetables | 12 070 | 16 798 | 14 895 | 15 778 | 20 696 | 22 695 | 20 928 | 21 188 | 20 358 | 21 615 | 24 642 | 23 267 |
| Production | 9 506 | 14 324 | 11 878 | 12 850 | 16 232 | 16 688 | 15 561 | 14 414 | 15 062 | 16 189 | 18 592 | 16 907 |
| Imports | 2 564 | 2 474 | 3 017 | 2 928 | 4 464 | 6 007 | 5 367 | 6 774 | 5 896 | 5 426 | 6 050 | 6 360 |
| g. Sugar and confectionery | 3 142 | 3 021 | 4 198 | 3 956 | 4 012 | 4 100 | 4 054 | 5 628 | 5 149 | 5 677 | 5 885 | 5 949 |
| Production | 1 440 | 2 035 | 2 664 | 3 420 | 3 492 | 3 564 | 3 456 | 4 932 | 4 590 | 5 040 | 5 023 | 5 040 |
| Imports | 1 702 | 986 | 1 534 | 536 | 520 | 536 | 598 | 696 | 559 | 637 | 862 | 909 |
| h. Coffee, tea, cocoa etc. | 5 557 | 5 548 | 6 071 | 3 974 | 3 728 | 4 692 | 4 362 | 4 178 | 2 920 | 3 700 | 2 997 | 3 256 |
| Production | 3 954 | 3 784 | 4 406 | 3 897 | 3 558 | 3 615 | 3 671 | 3 784 | 2 711 | 3 615 | 2 881 | 2 824 |
| Imports | 1 603 | 1 764 | 1 665 | 77 | 170 | 1 077 | 691 | 394 | 209 | 85 | 116 | 432 |

Table B-26 (Continued)

| Items | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Other foodstuffs | 1 217 | 2 731 | 2 061 | 1 720 | 1 664 | 2 094 | 4 425 | 2 495 | 2 352 | 2 098 | 3 506 | 3 143 |
| Production | 321 | 764 | 475 | 391 | 379 | 497 | 571 | 638 | 467 | 600 | 916 | 709 |
| Imports | 896 | 1 967 | 1 586 | 1 329 | 1 285 | 1 597 | 3 854 | 1 857 | 1 885 | 2 218 | 2 590 | 2 434 |
| 2. Beverages | 21 304 | 22 672 | 19 186 | 18 261 | 16 529 | 14 750 | 18 744 | 17 808 | 18 721 | 17 168 | 17 308 | 18 511 |
| Production | 17 548 | 17 967 | 15 663 | 15 033 | 13 692 | 11 435 | 13 688 | 14 947 | 14 721 | 14 020 | 13 782 | 14 795 |
| Exports | 3 756 | 4 705 | 3 523 | 3 228 | 2 837 | 3 315 | 5 056 | 3 461 | 4 000 | 3 148 | 3 526 | 3 716 |
| a. Non-alcoholic | 2 977 | 2 677 | 2 863 | 3 167 | 2 740 | 2 434 | 2 925 | 3 391 | 3 369 | 2 971 | 3 061 | 3 090 |
| Production | 2 977 | 2 675 | 2 855 | 3 161 | 2 729 | 2 424 | 2 924 | 3 391 | 3 367 | 2 971 | 3 061 | 3 086 |
| Imports | - | 2 | 8 | 6 | 11 | 10 | 1 | - | 2 | - | - | 4 |
| b. Alcoholic | 18 327 | 19 995 | 16 323 | 15 094 | 13 789 | 12 316 | 15 819 | 14 417 | 15 352 | 14 197 | 14 247 | 15 421 |
| Production | 14 571 | 15 292 | 12 808 | 11 872 | 10 963 | 9 011 | 10 764 | 10 956 | 11 354 | 11 049 | 10 721 | 11 709 |
| Imports | 3 756 | 4 703 | 3 515 | 3 222 | 2 826 | 3 305 | 5 055 | 3 461 | 3 998 | 3 148 | 3 526 | 3 712 |
| 3. Tobacco | 4 465 | 4 535 | 3 386 | 3 767 | 3 944 | 4 361 | 4 240 | 4 887 | 4 638 | 4 186 | 4 711 | 4 554 |
| Production | 260 | 325 | 390 | 390 | 390 | 390 | 455 | 455 | 455 | 455 | 1 786 | 2 147 |
| Imports | 4 205 | 4 210 | 2 996 | 3 377 | 3 554 | 3 971 | 3 785 | 4 432 | 4 183 | 3 731 | 2 925 | 2 407 |
| a. Cigarettes | 3 667 | 3 918 | 2 648 | 3 100 | 3 317 | 3 623 | 3 447 | 4 136 | 4 018 | 3 005 | 3 853 | 3 831 |
| Production | - | - | - | - | - | - | - | - | - | - | 1 331 | 1 692 |
| Imports | 3 667 | 3 918 | 2 648 | 3 100 | 3 317 | 3 623 | 3 447 | 4 136 | 4 018 | 3 005 | 2 522 | 2 139 |
| b. Other | 798 | 617 | 738 | 667 | 627 | 738 | 793 | 751 | 620 | 1 181 | 858 | 723 |
| Production | 260 | 325 | 390 | 390 | 390 | 390 | 455 | 455 | 455 | 455 | 455 | 455 |
| Imports | 538 | 292 | 348 | 277 | 237 | 348 | 338 | 296 | 165 | 726 | 403 | 268 |
| 4. Wearing apparel and other personal effects | 36 591 | 38 120 | 33 805 | 27 547 | 31 913 | 30 608 | 26 382 | 34 182 | 32 775 | 33 833 | 34 972 | 35 373 |
| Production | 8 099 | 11 936 | 15 126 | 12 537 | 14 743 | 14 846 | 11 933 | 18 033 | 17 777 | 16 914 | 17 760 | 18 332 |
| Imports | 30 492 | 26 184 | 18 679 | 15 010 | 17 170 | 15 762 | 14 449 | 16 149 | 14 998 | 16 919 | 17 212 | 17 041 |
| a. Footwear | 2 598 | 2 994 | 3 778 | 3 783 | 4 968 | 3 617 | 3 006 | 2 281 | 2 178 | 4 712 | 5 252 | 7 749 |
| Production | 900 | 1 162 | 1 314 | 1 325 | 1 202 | 1 385 | 1 437 | 1 730 | 1 745 | 1 848 | 2 261 | 2 497 |
| Imports | 1 638 | 1 832 | 2 464 | 2 458 | 3 766 | 2 232 | 1 569 | 551 | 433 | 2 864 | 2 991 | 5 252 |
| b. Wearing apparel | 12 557 | 17 345 | 20 382 | 17 850 | 21 686 | 22 279 | 18 385 | 26 689 | 25 959 | 25 072 | 24 972 | 24 373 |
| Production | 7 113 | 10 645 | 13 647 | 11 078 | 13 379 | 13 300 | 10 371 | 16 108 | 15 840 | 14 886 | 15 314 | 15 646 |
| Imports | 5 444 | 6 700 | 6 735 | 6 772 | 8 307 | 8 979 | 8 014 | 10 581 | 10 139 | 10 186 | 9 658 | 8 727 |

/Table B-26 (Cont.)

Table B-26 (Continued)

| Items | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| c-1 Other personal effects (non-durable) | 4 622 | 2 817 | 1 413 | 1 458 | 1 369 | 1 737 | 1 475 | 1 860 | 1 553 | 940 | 1 284 | 974 |
| Production | - | - | - | - | - | - | - | - | - | - | - | - |
| Imports | 4 622 | 2 817 | 1 413 | 1 458 | 1 369 | 1 737 | 1 475 | 1 860 | 1 553 | 940 | 1 284 | 974 |
| c-2 Other personal effects (durable) | 18 874 | 14 964 | 8 232 | 4 456 | 3 890 | 2 975 | 3 516 | 3 352 | 3 065 | 3 109 | 3 464 | 2 277 |
| Production | 86 | 129 | 165 | 134 | 162 | 161 | 125 | 195 | 192 | 180 | 185 | 189 |
| Imports | 18 788 | 14 835 | 8 067 | 4 322 | 3 728 | 2 814 | 3 391 | 3 157 | 2 873 | 2 929 | 3 279 | 2 088 |
| 5. Rents and water consumption | 24 188 | 25 020 | 25 941 | 27 249 | 28 526 | 29 715 | 30 576 | 31 587 | 32 627 | 33 935 | 35 420 | 37 025 |
| Production | 24 188 | 25 020 | 25 941 | 27 249 | 28 526 | 29 715 | 30 576 | 31 587 | 32 627 | 33 935 | 35 420 | 37 025 |
| 6. Fuel and light | 3 241 | 3 553 | 3 756 | 4 029 | 4 290 | 4 640 | 4 894 | 5 481 | 5 667 | 6 173 | 6 421 | 6 782 |
| Production | 2 743 | 3 008 | 3 185 | 3 352 | 3 562 | 3 780 | 4 054 | 4 476 | 4 676 | 4 939 | 5 244 | 5 458 |
| Imports | 498 | 545 | 571 | 677 | 728 | 860 | 840 | 1 005 | 991 | 1 234 | 1 177 | 1 324 |
| 7. Furniture, fittings and household utensils | 4 764 | 7 867 | 12 001 | 10 429 | 10 421 | 12 564 | 9 874 | 11 235 | 11 585 | 10 874 | 12 723 | 14 833 |
| Production | 1 408 | 1 605 | 1 718 | 1 680 | 1 751 | 1 826 | 1 850 | 2 779 | 2 281 | 2 178 | 2 230 | 2 277 |
| Imports | 3 356 | 6 262 | 10 283 | 8 749 | 8 670 | 10 738 | 8 024 | 8 456 | 9 304 | 8 696 | 10 493 | 12 553 |
| a-1 Furniture and fittings (non durable) | 51 | 47 | 73 | 60 | 53 | 95 | 69 | 46 | 48 | 61 | 72 | 71 |
| Production | - | - | - | - | - | - | - | - | - | - | - | - |
| Imports | 51 | 47 | 73 | 60 | 53 | 95 | 69 | 46 | 48 | 61 | 72 | 71 |
| a-2 Furniture and fittings (durable) | 2 131 | 2 278 | 2 769 | 2 535 | 2 509 | 3 184 | 2 842 | 3 441 | 2 964 | 3 050 | 3 258 | 3 299 |
| Production | 1 408 | 1 605 | 1 718 | 1 680 | 1 751 | 1 826 | 1 850 | 2 779 | 2 281 | 2 178 | 2 230 | 2 277 |
| Imports | 723 | 673 | 1 051 | 855 | 758 | 1 358 | 992 | 662 | 683 | 872 | 1 028 | 1 022 |
| b-1 Household utensils (non durable) | 1 435 | 2 305 | 4 025 | 3 524 | 4 336 | 5 178 | 3 749 | 4 270 | 4 626 | 3 733 | 4 097 | 5 141 |
| Production | - | - | - | - | - | - | - | - | - | - | - | - |
| Imports | 1 435 | 2 305 | 4 025 | 3 524 | 4 336 | 5 178 | 3 749 | 4 270 | 4 626 | 3 733 | 4 097 | 5 141 |
| b-2 Household utensils (durable) | 1 147 | 3 237 | 5 134 | 4 310 | 3 523 | 4 107 | 3 214 | 3 478 | 3 947 | 4 030 | 5 296 | 6 319 |
| Production | - | - | - | - | - | - | - | - | - | - | - | - |
| Imports | 1 147 | 3 237 | 5 134 | 4 310 | 3 523 | 4 107 | 3 214 | 3 478 | 3 947 | 4 030 | 5 296 | 6 319 |

/Table B-26 (cont'd)

Table B-26 (Continued)

| Items | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8. Household | 5 294 | 6 340 | 6 682 | 6 529 | 7 057 | 8 847 | 9 175 | 9 573 | 8 911 | 8 280 | 8 116 | 8 930 |
| Production | 4 416 | 5 045 | 5 468 | 5 123 | 5 383 | 6 051 | 6 070 | 6 523 | 6 339 | 6 715 | 7 192 | 7 582 |
| Imports | 878 | 1 295 | 1 214 | 1 406 | 1 674 | 2 796 | 3 105 | 3 050 | 2 572 | 1 565 | 924 | 1 348 |
| a. Domestic services | 3 094 | 3 551 | 3 819 | 3 488 | 3 598 | 3 941 | 4 107 | 4 304 | 4 256 | 4 477 | 4 745 | 4 887 |
| Production | 3 094 | 3 551 | 3 819 | 3 488 | 3 598 | 3 941 | 4 107 | 4 304 | 4 256 | 4 477 | 4 745 | 4 887 |
| b. Other expenditure | 2 200 | 2 789 | 2 863 | 3 041 | 3 459 | 4 906 | 5 068 | 5 269 | 4 655 | 3 803 | 3 371 | 4 043 |
| Production | 1 322 | 1 494 | 1 649 | 1 635 | 1 785 | 2 110 | 1 963 | 2 219 | 2 083 | 2 238 | 2 447 | 2 695 |
| Imports | 878 | 1 295 | 1 214 | 1 406 | 1 674 | 2 796 | 3 105 | 3 050 | 2 572 | 1 565 | 924 | 1 348 |
| 9. Personal care and health | 10 595 | 14 946 | 10 803 | 10 469 | 9 412 | 12 356 | 12 594 | 13 086 | 12 861 | 15 531 | 17 203 | 18 323 |
| Production | 2 432 | 2 705 | 3 004 | 3 001 | 3 070 | 3 276 | 3 479 | 3 507 | 3 485 | 3 651 | 4 005 | 4 375 |
| Imports | 8 163 | 12 241 | 7 799 | 7 468 | 6 342 | 9 080 | 9 115 | 9 579 | 9 376 | 11 880 | 13 198 | 13 945 |
| a. Personal care | 6 263 | 10 087 | 5 003 | 4 638 | 3 692 | 5 266 | 5 314 | 6 596 | 6 936 | 8 108 | 7 609 | 8 711 |
| Production | 889 | 950 | 927 | 891 | 918 | 942 | 963 | 1 024 | 1 034 | 1 102 | 1 157 | 1 226 |
| Imports | 5 374 | 9 137 | 4 076 | 3 747 | 2 774 | 4 324 | 4 351 | 5 572 | 5 902 | 7 006 | 6 452 | 6 485 |
| b. Healt | 4 332 | 4 859 | 5 800 | 5 831 | 5 720 | 7 090 | 7 280 | 6 490 | 5 925 | 7 423 | 9 594 | 9 609 |
| Production | 1 543 | 1 755 | 2 077 | 2 110 | 2 152 | 2 334 | 2 516 | 2 483 | 2 451 | 2 549 | 2 848 | 3 149 |
| Imports | 2 789 | 3 104 | 3 723 | 3 721 | 3 568 | 4 756 | 4 764 | 4 007 | 3 474 | 4 874 | 6 746 | 6 460 |
| 10. Transport and communications | 17 009 | 19 498 | 19 254 | 18 435 | 20 899 | 23 990 | 23 569 | 22 260 | 23 798 | 25 929 | 29 511 | 33 645 |
| Production | 14 377 | 15 348 | 12 981 | 11 755 | 12 615 | 14 523 | 13 514 | 14 460 | 14 435 | 15 926 | 17 976 | 20 921 |
| Imports | 2 632 | 4 150 | 6 273 | 6 680 | 8 284 | 9 467 | 10 055 | 7 800 | 9 363 | 10 003 | 11 535 | 12 724 |
| a. Personal transport equipment | 730 | 2 105 | 3 666 | 3 856 | 5 321 | 5 407 | 5 315 | 2 633 | 4 113 | 3 886 | 4 731 | 5 849 |
| Production | - | - | - | - | - | - | - | - | - | - | - | - |
| Imports | 730 | 2 105 | 3 666 | 3 856 | 5 321 | 5 407 | 5 315 | 2 633 | 4 113 | 3 886 | 4 731 | 5 849 |
| b. Utilization of equipment | 2 548 | 2 768 | 3 282 | 3 635 | 3 843 | 5 353 | 6 052 | 6 453 | 6 456 | 7 866 | 8 739 | 9 164 |
| Production | 646 | 723 | 675 | 811 | 880 | 1 293 | 1 312 | 1 286 | 1 206 | 1 749 | 1 935 | 2 289 |
| Imports | 1 902 | 2 045 | 2 607 | 2 824 | 2 963 | 4 060 | 4 740 | 5 167 | 5 250 | 6 117 | 6 804 | 6 875 |
| c. Purchase of transport services | 12 674 | 13 516 | 11 132 | 9 698 | 10 438 | 11 847 | 10 623 | 11 426 | 11 338 | 12 271 | 13 468 | 16 304 |
| Production | 12 674 | 13 516 | 11 132 | 9 698 | 10 438 | 11 847 | 10 623 | 11 426 | 11 338 | 12 271 | 13 468 | 16 304 |
| d. Communications | 1 057 | 1 109 | 1 174 | 1 246 | 1 297 | 1 383 | 1 579 | 1 748 | 1 891 | 1 906 | 2 573 | 2 928 |
| Production | 1 057 | 1 109 | 1 174 | 1 246 | 1 297 | 1 383 | 1 579 | 1 748 | 1 891 | 1 906 | 2 573 | 2 928 |

/Table B-26 (Cont.)

able B-26 (Continued)

| tems | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Amusements and entertainment | 11 389 | 13 817 | 12 561 | 10 359 | 10 492 | 10 129 | 11 066 | 14 256 | 10 940 | 12 276 | 12 544 | 12 672 |
| Production | 8 127 | 8 048 | 7 988 | 7 240 | 7 390 | 6 834 | 6 919 | 7 226 | 7 193 | 7 694 | 7 880 | 8 418 |
| Imports | 3 262 | 5 769 | 4 573 | 3 119 | 3 102 | 3 295 | 4 147 | 7 030 | 3 747 | 4 582 | 4 664 | 4 254 |
| a. Entertainment | 3 367 | 2 952 | 2 867 | 2 800 | 3 058 | 2 640 | 2 628 | 2 953 | 3 093 | 3 301 | 3 604 | 3 406 |
| Production | 3 367 | 2 952 | 2 867 | 2 809 | 3 058 | 2 640 | 2 628 | 2 953 | 3 093 | 3 301 | 3 604 | 3 406 |
| b. Hotels, restaurants | 2 924 | 3 197 | 2 718 | 2 614 | 2 495 | 2 480 | 2 582 | 2 845 | 2 842 | 3 075 | 2 924 | 3 403 |
| Production | 2 924 | 3 197 | 2 718 | 2 614 | 2 495 | 2 480 | 2 582 | 2 845 | 2 842 | 3 075 | 2 924 | 3 403 |
| c. Books, newspapers, magazines | 2 251 | 2 556 | 2 722 | 1 941 | 2 083 | 2 272 | 2 280 | 2 145 | 1 915 | 2 004 | 2 057 | 2 413 |
| Production | 1 836 | 1 899 | 2 403 | 1 817 | 1 837 | 1 714 | 1 709 | 1 428 | 1 258 | 1 318 | 1 352 | 1 609 |
| Imports | 415 | 657 | 319 | 124 | 246 | 558 | 571 | 717 | 657 | 686 | 705 | 804 |
| d-1 Other forms of entertainment (non-durable) | 978 | 1 756 | 1 461 | 1 029 | 981 | 940 | 1 228 | 2 168 | 1 061 | 1 338 | 1 360 | 1 185 |
| Production | - | - | - | - | - | - | - | - | - | - | - | - |
| Imports | 978 | 1 756 | 1 461 | 1 029 | 981 | 940 | 1 228 | 2 168 | 1 061 | 1 338 | 1 360 | 1 185 |
| d-2 Other forms of entertainment (durable) | 1 869 | 3 356 | 2 793 | 1 966 | 1 875 | 1 797 | 2 348 | 4 145 | 2 029 | 2 558 | 2 599 | 2 265 |
| Production | - | - | - | - | - | - | - | - | - | - | - | - |
| Imports | 1 869 | 3 356 | 2 793 | 1 966 | 1 875 | 1 797 | 2 348 | 4 145 | 2 029 | 2 558 | 2 599 | 2 265 |
| 12. Miscellaneous services (domestic) | 3 749 | 3 929 | 3 895 | 3 775 | 3 856 | 3 856 | 3 944 | 4 244 | 4 414 | 4 828 | 5 180 | 5 527 |
| a. Financial services | 358 | 423 | 446 | 389 | 395 | 413 | 420 | 465 | 474 | 485 | 504 | 518 |
| b. Other services | 3 391 | 3 506 | 3 449 | 3 386 | 3 461 | 3 443 | 3 524 | 3 779 | 3 940 | 4 343 | 4 676 | 5 059 |

Source: See text of appendix B.

Table B-27

PANAMA: EXPENDITURE OF PUBLIC SECTOR IN CONSUMPTION AND INVESTMENT, 1945-56

(Thousands of balboas at 1950 prices)

| Year | Total | Consumption | | | Investment | | | |
|---|---|---|---|---|---|---|---|---|
| | | Total | Wages | Purchases | Total | Roads and docks | Buildings and other works | Machinery and equipment |
| 1945 | 43 103 | 28 562 | 19 144 | 9 418 | 14 541 | 5 572 | 7 711 | 1 258 |
| 1946 | 42 269 | 30 773 | 18 323 | 12 450 | 11 496 | 2 402 | 8 228 | 866 |
| 1947 | 41 227 | 29 557 | 20 099 | 9 458 | 11 670 | 5 630 | 5 116 | 924 |
| 1948 | 34 076 | 28 073 | 19 884 | 8 189 | 6 003 | 1 941 | 3 232 | 830 |
| 1949 | 31 170 | 27 031 | 18 361 | 8 670 | 4 139 | 1 819 | 1 430 | 890 |
| 1950 | 40 234 | 31 593 | 22 513 | 9 080 | 8 641 | 3 122 | 4 292 | 1 227 |
| 1951 | 37 164 | 31 260 | 22 669 | 8 591 | 5 904 | 2 788 | 2 844 | 272 |
| 1952 | 41 777 | 34 103 | 21 240 | 12 863 | 7 674 | 4 033 | 3 340 | 301 |
| 1953 | 43 099 | 35 648 | 24 357 | 11 291 | 7 451 | 5 155 | 1 442 | 854 |
| 1954 | 46 101 | 39 803 | 28 029 | 11 774 | 6 298 | 1 818 | 3 329 | 1 151 |
| 1955 | 47 291 | 38 396 | 26 954 | 11 442 | 8 895 | 2 817 | 4 335 | 1 743 |
| 1956 | 54 299 | 41 269 | 28 670 | 12 599 | 13 030 | 7 076 | 4 962 | 992 |

Source: See text of appendix B.

/Table B-28

Table B-28

PANAMA: INDEX FOR DEFLATING PURCHASES AT CURRENT PRICES BY THE PUBLIC SECTOR, 1945-56

(1950=100)

| Item | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Index a/ | 84.6 | 86.8 | 98.7 | 112.9 | 100.6 | 100.0 | 111.0 | 100.4 | 110.3 | 104.3 | 104.5 | 109.6 |
| Purchases met from production | | | | | | | | | | | | |
| Foodstuffs | 95.5 | 103.7 | 114.8 | 115.2 | 106.0 | 100.0 | 103.8 | 104.4 | 102.5 | 102.5 | 103.0 | 102.4 |
| Rent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Electricity, gas and water | 80.4 | 78.0 | 102.3 | 150.3 | 107.4 | 100.0 | 121.5 | 117.1 | 109.5 | 89.3 | 122.2 | 144.8 |
| Clothing | 118.5 | 131.1 | 119.2 | 128.6 | 90.6 | 100.0 | 112.5 | 92.5 | 86.0 | 80.7 | 70.2 | 72.2 |
| Transport | 41.1 | 53.7 | 69.6 | 83.2 | 88.0 | 100.0 | 104.4 | 99.9 | 108.5 | 105.4 | 122.4 | 108.6 |
| Purchases met from imports | | | | | | | | | | | | |
| Office and cleaning supplies and materials | 80.9 | 67.9 | 96.1 | 109.7 | 90.3 | 100.0 | 124.9 | 116.9 | 108.0 | 108.3 | 120.2 | 125.5 |
| Petrol and lubricants | 39.0 | 54.8 | 77.7 | 99.7 | 89.0 | 100.0 | 98.7 | 97.6 | 101.4 | 104.3 | 115.7 | 111.7 |
| Vehicle spare parts and accessories | 65.8 | 76.9 | 89.6 | 88.9 | 94.4 | 100.0 | 103.2 | 101.0 | 101.9 | 104.9 | 93.4 | 100.1 |
| Medicines | 90.7 | 91.1 | 95.3 | 100.3 | 102.4 | 100.0 | 110.3 | 87.2 | 124.0 | 117.2 | 95.2 | 97.6 |
| Arms and munitions | 29.0 | 53.1 | 77.5 | 84.6 | 93.3 | 100.0 | 123.5 | 114.7 | 114.7 | 133.8 | 107.7 | 107.8 |
| Fertilizers, seeds and fodder | 68.8 | 86.5 | 96.7 | 98.1 | 98.4 | 100.0 | 108.9 | 130.9 | 137.2 | 144.2 | 129.7 | 128.9 |
| Books and teaching materials | 89.6 | 83.8 | 121.4 | 116.2 | 103.8 | 100.0 | 105.5 | 97.8 | 79.0 | 98.4 | 109.5 | 94.2 |

Source: See text of appendix B.

a/ Weighting: Foodstuffs 9.0; Rent 7.6; Electricity 20.6; Clothing 5.5; Transport 4.3; Materials and cleaning 6.1; Petrol 3.9; Spare parts 6.1; Medicines 33.4; Arms 0.2; Fertilizers 0.8; Teaching materials 2.5.

Table B-29

PANAMA: CONSUMPTION MET FROM IMPORTS, 1945-56

(Thousands of balboas at 1950 prices)

| Product | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Foodstuffs | | | | | | | | | | | | |
| a. Bread, cereals and rice | 1 734 | 1 419 | 2 577 | 2 002 | 683 | 768 | 1 622 | 1 504 | 692 | 719 | 1 170 | 790 |
| Hulled rice | 1 265 | 846 | 1 726 | 1 359 | 20 | 3 | 901 | 825 | - | - | - | - |
| Maize | - | - | 1 | - | - | - | - | - | - | 38 | 186 | 125 |
| Rolled oats | 159 | 132 | 317 | 213 | 265 | 325 | 258 | 278 | 281 | 261 | 288 | 257 |
| Biscuits | 310 | 441 | 533 | 430 | 398 | 440 | 463 | 401 | 411 | 420 | 696 | 408 |
| b. Meat | 1 207 | 1 581 | 1 137 | 885 | 1 038 | 1 326 | 1 271 | 1 406 | 1 444 | 1 397 | 1 744 | 1 886 |
| Beef | 51 | 15 | 45 | 71 | 104 | 59 | 90 | 31 | 16 | 15 | 21 | 38 |
| Pork | 316 | 186 | 144 | 45 | 58 | 38 | 47 | 31 | 12 | 6 | 14 | 22 |
| Ham | 627 | 766 | 749 | 611 | 612 | 867 | 941 | 1 053 | 1 146 | 1 138 | 1 425 | 1 583 |
| Preserved meats | 99 | 489 | 98 | 35 | 153 | 181 | 78 | 133 | 145 | 109 | 144 | 97 |
| Sausages | 114 | 125 | 101 | 123 | 111 | 181 | 115 | 158 | 125 | 129 | 140 | 146 |
| c. Fish | 243 | 222 | 444 | 399 | 419 | 654 | 780 | 801 | 779 | 812 | 857 | 841 |
| Cod | 108 | 159 | 258 | 267 | 267 | 362 | 415 | 470 | 483 | 460 | 477 | 478 |
| Sardines | 135 | 63 | 186 | 132 | 152 | 292 | 365 | 331 | 291 | 352 | 380 | 363 |
| d. Milk, cheese and eggs | 2 074 | 1 890 | 2 515 | 2 278 | 2 332 | 2 267 | 2 209 | 2 562 | 1 806 | 2 383 | 1 616 | 1 552 |
| Evaporated milk | 1 020 | 790 | 1 116 | 954 | 762 | 801 | 784 | 586 | - | 2 | 6 | 1 |
| Condensed milk | - | - | 1 | 4 | 3 | 2 | - | - | - | - | - | - |
| Klim (powdered milk) and similar products | 629 | 748 | 832 | 816 | 1 061 | 929 | 760 | 1 200 | 1 236 | 1 709 | 884 | 52 |
| Lactogene, nestogene | 113 | 141 | 212 | 146 | 147 | 124 | 188 | 265 | 98 | 197 | 201 | 655 |
| Cheese | 312 | 211 | 354 | 358 | 359 | 411 | 477 | 511 | 472 | 475 | 525 | 844 |

/Table B-29 (Cont.)

Table B-29 (continued)

| Product | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| e. Oils and fats | 2 773 | 2 011 | 1 982 | 2 267 | 2 657 | 3 144 | 3 306 | 3 440 | 3 056 | 4 785 | 2 162 | 2 875 |
| Butter | 1 465 | 1 137 | 916 | 1 244 | 854 | 1 006 | 1 240 | 955 | 1 193 | 1 060 | 1 071 | 1 213 |
| Edible oil | 195 | 7 | - | - | 1 | - | - | - | - | - | 6 | - |
| Edible oils and fats | 561 | 250 | 379 | 484 | 440 | 448 | 361 | 460 | 1 | 1 059 | 279 | 321 |
| Lard | 552 | 617 | 687 | 539 | 1 362 | 1 690 | 1 705 | 2 025 | 1 862 | 2 666 | 806 | 1 341 |
| f. Fruits and vegetables | 1 614 | 1 557 | 1 899 | 1 843 | 2 810 | 3 781 | 3 378 | 4 264 | 3 711 | 3 415 | 3 808 | 4 003 |
| Beans | 316 | 303 | 249 | 275 | 266 | 304 | 354 | 400 | 366 | 400 | 479 | 439 |
| Onions | 419 | 448 | 522 | 436 | 536 | 604 | 700 | 691 | 649 | 686 | 687 | 713 |
| Lentils | 176 | 162 | 150 | 183 | 166 | 174 | 256 | 208 | 238 | 230 | 237 | 286 |
| Fresh potatoes | 142 | 21 | 55 | 80 | 78 | 466 | 309 | 654 | 301 | 230 | 228 | 368 |
| Apples | 149 | 173 | 239 | 248 | 361 | 393 | 414 | 401 | 344 | 365 | 368 | 490 |
| Cabbage | 7 | 5 | 2 | 4 | 2 | 3 | 4 | 2 | - | - | 1 | - |
| Tomatoes | 1 | 2 | 16 | 24 | 31 | 23 | 20 | 22 | 18 | 3 | 2 | 2 |
| Grapes | 35 | 83 | 154 | 125 | 233 | 253 | 249 | 236 | 190 | 199 | 245 | 265 |
| Tomato juice | 127 | 82 | 126 | 136 | 194 | 226 | 188 | 319 | 241 | 282 | 332 | 287 |
| Tomato paste | 104 | 142 | 183 | 113 | 161 | 146 | 195 | 172 | 121 | 11 | - | 4 |
| Non-tropical juices | 138 | 136 | 203 | 219 | 782 | 1 189 | 689 | 1 159 | 1 243 | 1 009 | 1 232 | 1 151 |
| g. Sugar, preserves and confectionery | 1 264 | 732 | 1 139 | 398 | 386 | 328 | 444 | 517 | 415 | 473 | 640 | 645 |
| Sugar | 961 | 394 | 766 | 29 | 7 | 5 | 2 | 2 | 2 | 3 | 3 | 3 |
| Chewing gum | 176 | 223 | 243 | 260 | 204 | 226 | 272 | 272 | 261 | 260 | 302 | 330 |
| Pastilles, sweets, etc. | 97 | 69 | 94 | 79 | 126 | 92 | 107 | 243 | 80 | 152 | 335 | 342 |
| Pastilles, sweets etc. | 30 | 46 | 36 | 30 | 49 | 75 | 63 | - | 72 | 58 | - | - |
| h. Coffee, tea, cocoa, etc. | 1 433 | 1 577 | 1 489 | 69 | 152 | 963 | 618 | 352 | 187 | 76 | 104 | 386 |
| Coffee | 1 371 | 1 536 | 1 424 | 3 | 85 | 824 | 539 | 280 | - | - | - | 300 |
| Tea | 62 | 41 | 65 | 66 | 67 | 139 | 79 | 72 | 187 | 76 | 104 | 86 |

/Table B-29 (cont.)

Table B-29 (continued)

| Product | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| i. Other foodstuffs | 414 | 909 | 733 | 614 | 594 | 738 | 1 781 | 858 | 871 | 1 025 | 1 197 | 1 125 |
| Refined salt | 7 | 16 | 47 | 34 | 23 | 50 | 1 018 | 7 | 6 | 8 | 9 | 10 |
| Coarse salt | - | - | - | 4 | 4 | 15 | 10 | - | 1 | - | 1 | 1 |
| Tinned soups | 120 | 258 | 398 | 338 | 341 | 487 | 473 | 613 | 650 | 452 | 455 | 651 |
| Packet soups | 287 | 635 | 288 | 238 | 226 | 186 | 280 | 238 | 214 | 565 | 732 | 463 |
| 2. Beverages | | | | | | | | | | | | |
| a. Non-alcoholic | - | 1 | 2 | 2 | 3 | 3 | - | - | - | - | - | 1 |
| Carbonated beverages | - | 1 | 2 | 2 | 3 | 3 | - | - | - | - | - | 1 |
| b. Alcoholic | 3 248 | 4 067 | 3 040 | 2 786 | 2 444 | 2 858 | 4 371 | 2 993 | 3 457 | 2 722 | 3 049 | 3 210 |
| Wines | 828 | 889 | 828 | 524 | 442 | 438 | 748 | 523 | 540 | 524 | 408 | 409 |
| Beer | 17 | 12 | 8 | 178 | 150 | 196 | 268 | 206 | 82 | 74 | 127 | 31 |
| Gin | 29 | 38 | 47 | 24 | 42 | 39 | 63 | 49 | 41 | 39 | 52 | 57 |
| Rum | 164 | 247 | 229 | 126 | 124 | 66 | 209 | 98 | 114 | 94 | 88 | 161 |
| Whisky | 2 210 | 2 881 | 1 928 | 1 934 | 1 686 | 2 119 | 3 083 | 2 117 | 2 680 | 1 991 | 2 374 | 2 552 |
| 3. Tobacco | | | | | | | | | | | | |
| a. Cigarettes | 3 667 | 3 918 | 2 648 | 3 100 | 3 317 | 3 623 | 3 447 | 4 136 | 4 018 | 3 005 | 2 522 | 2 139 |
| Cigarettes | 3 667 | 3 918 | 2 648 | 3 100 | 3 317 | 3 623 | 3 447 | 4 136 | 4 018 | 3 005 | 2 522 | 2 139 |
| b. Others | 519 | 282 | 336 | 267 | 229 | 336 | 326 | 286 | 159 | 701 | 389 | 259 |
| Cigars | 322 | 155 | 180 | 125 | 119 | 139 | 110 | 141 | 113 | 125 | 133 | 137 |
| Brevas (flat cigars) | 197 | 127 | 156 | 142 | 110 | 197 | 216 | 145 | 46 | 576 | 256 | 122 |
| 4. Wearing apparel and other personal effects | | | | | | | | | | | | |
| a. Footwear | 904 | 1 011 | 1 360 | 1 357 | 2 079 | 1 232 | 866 | 304 | 239 | 1 581 | 1 651 | 2 899 |
| Children's shoes | 29 | 39 | 10 | 33 | 50 | 45 | 85 | 175 | 117 | 713 | 919 | 848 |
| Leather shoes | 875 | 972 | 1 350 | 1 324 | 2 029 | 1 187 | 781 | 129 | 122 | 868 | 732 | 2 051 |

/Table B-29 (Cont.)

Table B-29 (continued)

| Product | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| b. Wearing apparel, excluding footwear | 4 522 | 5 565 | 5 595 | 5 625 | 6 901 | 7 459 | 6 658 | 8 790 | 8 423 | 8 462 | 8 023 | 7 250 |
| Articles of silk | 154 | 285 | 178 | 129 | 630 | 745 | 753 | 882 | 1 074 | 446 | 482 | 628 |
| Articles of jersey cotton | 39 | 8 | 145 | 92 | 192 | 250 | 282 | 131 | 115 | 299 | 195 | 153 |
| Cotton socks and stockings | 125 | 202 | 263 | 221 | 218 | 428 | 454 | 578 | 525 | 563 | 498 | 376 |
| Silk socks and stockings | 610 | 822 | 862 | 567 | 925 | 1 191 | 662 | 982 | 1 000 | 883 | 842 | 653 |
| Silk shirts | 160 | 400 | 218 | 147 | 144 | 197 | 180 | 164 | 205 | 162 | 154 | 128 |
| Silk underwear | 337 | 617 | 720 | 1 148 | 1 579 | 2 028 | 2 080 | 2 852 | 2 677 | 3 320 | 2 881 | 2 404 |
| Silk outer clothing | 1 624 | 963 | 1 210 | 1 080 | 996 | 944 | 771 | 1 158 | 1 135 | 670 | 539 | 678 |
| Cotton shirts | 1 181 | 2 061 | 1 069 | 1 126 | - | 309 | 304 | 366 | 354 | 468 | 488 | 449 |
| Cotton underwear | 84 | 63 | 809 | 969 | 1 790 | 862 | 726 | 1 043 | 675 | 761 | 926 | 451 |
| Women's cotton clothing | 189 | 136 | 109 | 135 | 258 | 308 | 295 | 478 | 482 | 719 | 884 | 1 182 |
| Children's cotton clothing | 19 | 8 | 12 | 11 | 169 | 197 | 151 | 156 | 181 | 171 | 134 | 148 |
| c-1. Non-durable personal effects | 1 357 | 827 | 415 | 428 | 402 | 510 | 433 | 546 | 456 | 276 | 377 | 286 |
| Leather handbags | 1 324 | 684 | 231 | 168 | 191 | 282 | 216 | 195 | 151 | 169 | 176 | 140 |
| Handbags and purses | 33 | 143 | 184 | 260 | 211 | 228 | 217 | 351 | 305 | 107 | 201 | 146 |
| c-2. Durable personal effects | 12 111 | 9 563 | 5 200 | 2 786 | 2 403 | 1 814 | 2 186 | 2 035 | 1 852 | 1 888 | 2 114 | 1 346 |
| Jewellery, gold | 5 852 | 5 459 | 882 | 274 | 370 | 384 | 601 | 528 | 619 | 667 | 575 | 554 |
| Jewellery, silver | - | - | 290 | 68 | 68 | 74 | 139 | 240 | 151 | 170 | 159 | 136 |
| Wrist watches, gold | 121 | 749 | 670 | 146 | 109 | 91 | 84 | 198 | 175 | 319 | 269 | 17 |
| Wrist watches, others | 6 138 | 3 355 | 3 358 | 2 298 | 1 856 | 1 265 | 1 362 | 1 069 | 907 | 732 | 1 111 | 639 |
| 6. Fuel and lighting | | | | | | | | | | | | |
| a. Paraffin | 474 | 519 | 544 | 645 | 693 | 819 | 800 | 957 | 944 | 1 175 | 1 121 | 1 261 |
| 7. Furniture, fittings and household utensils | | | | | | | | | | | | |
| a. Furniture and fittings | 454 | 423 | 660 | 537 | 476 | 853 | 623 | 416 | 429 | 548 | 646 | 642 |
| Ebony furniture | - | 2 | 48 | 103 | 140 | 264 | 246 | 169 | 122 | 156 | 188 | 144 |
| Wood and iron furniture | 414 | 310 | 423 | 320 | 183 | 363 | 240 | 114 | 152 | 223 | 256 | 186 |
| Iron and leather furniture | 40 | 111 | 189 | 114 | 153 | 226 | 137 | 133 | 155 | 169 | 202 | 312 |

Table B-29 (continued)

| Products | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| b-1. Non-durable household utensils | 891 | 1 431 | 2 499 | 2 188 | 2 692 | 3 215 | 2 328 | 2 651 | 2 872 | 2 318 | 2 544 | 3 192 |
| Cotton goods | 56 | 74 | 848 | 769 | 925 | 775 | 728 | 896 | 984 | 642 | 637 | 879 |
| Linen goods | 19 | 34 | 294 | 576 | 617 | 781 | 586 | 667 | 852 | 624 | 756 | 1 122 |
| China tableware | 196 | 314 | 224 | 151 | 386 | 407 | 270 | 267 | 202 | 232 | 297 | 291 |
| Porcelain tableware | 11 | 12 | 9 | 19 | 39 | 431 | 138 | 134 | 155 | 140 | 155 | 191 |
| Domestic glass and crystal | 413 | 719 | 881 | 445 | 458 | 546 | 429 | 518 | 486 | 489 | 490 | 522 |
| Gramophone records | 196 | 278 | 243 | 228 | 272 | 275 | 177 | 169 | 193 | 191 | 209 | 187 |
| b-2. Durable household goods | 791 | 2 232 | 3 540 | 2 972 | 2 429 | 2 832 | 2 216 | 2 398 | 2 722 | 2 779 | 3 652 | 4 357 |
| Gas stoves | 86 | 137 | 177 | 193 | 250 | 235 | 185 | 142 | 144 | 141 | 188 | 249 |
| Oil stoves | 36 | 62 | 90 | 109 | 181 | 132 | 169 | 190 | 243 | 279 | 388 | 516 |
| Knives, forks and spoons | 57 | 87 | 139 | 80 | 122 | 89 | 85 | 79 | 69 | 82 | 85 | 92 |
| Metal place settings | 240 | 171 | 281 | 352 | 234 | 288 | 431 | 256 | 283 | 422 | 190 | 157 |
| Radios | 23 | 410 | 564 | 383 | 270 | 323 | 289 | 335 | 278 | 276 | 510 | 602 |
| Electric table lamps | 179 | 249 | 333 | 207 | 169 | 201 | 166 | 193 | 239 | 193 | 297 | 254 |
| Washing machines, etc. | 16 | 96 | 312 | 210 | 185 | 271 | 224 | 123 | 114 | 154 | 263 | 284 |
| Electric refrigerators | 140 | 687 | 1 173 | 899 | 827 | 840 | 647 | 536 | 622 | 618 | 807 | 1 001 |
| Sewing machines | 14 | 333 | 471 | 539 | 191 | 453 | 20 | 544 | 730 | 614 | 924 | 1 202 |
| 8. Household maintenance | | | | | | | | | | | | |
| b. Other expenditure | 443 | 653 | 612 | 708 | 844 | 1 410 | 1 566 | 1 538 | 1 297 | 789 | 466 | 680 |
| Washing soap | 236 | 241 | 191 | 296 | 300 | 847 | 937 | 1 057 | 477 | 380 | 61 | 32 |
| Toilet paper | 43 | 82 | 175 | 184 | 227 | 232 | 292 | 276 | 535 | 62 | 99 | 356 |
| Matches | 164 | 330 | 246 | 227 | 317 | 331 | 337 | 205 | 285 | 347 | 306 | 292 |
| 9. Personal care and health | | | | | | | | | | | | |
| a. Personal care | 3 518 | 7 612 | 2 020 | 1 401 | 1 256 | 2 153 | 2 325 | 2 981 | 3 001 | 3 527 | 3 332 | 3 361 |
| Toilet soap, ordinary | 409 | 323 | 450 | 754 | 352 | 567 | 528 | 714 | 778 | 961 | 516 | 980 |
| Tooth paste | 271 | 294 | 391 | 331 | 297 | 428 | 399 | 494 | 600 | 508 | 604 | 843 |
| Creams and lotions | 482 | 463 | 446 | 346 | 301 | 364 | 454 | 414 | 438 | 709 | 833 | 759 |
| Perfumes | 2 356 | 6 532 | 733 | 30 | 306 | 794 | 944 | 1 359 | 1 185 | 1 349 | 1 379 | 779 |
| b. Health | 1 396 | 1 554 | 1 864 | 863 | 1 786 | 2 381 | 2 385 | 2 006 | 1 739 | 2 440 | 3 377 | 3 234 |
| Injection ampoules | 235 | 406 | 432 | 346 | 290 | 183 | 294 | 288 | - | 229 | 584 | 207 |
| Penicillin ampoules | 136 | 161 | 400 | 580 | 679 | 1 113 | 950 | 429 | 582 | 1 103 | 1 554 | 1 720 |
| Medicines, (unspecified) | 280 | 307 | 314 | 214 | 186 | 194 | 231 | 220 | 200 | 180 | 166 | 171 |
| Pills, capsules | 298 | 341 | 339 | 284 | 285 | 260 | 286 | 318 | 199 | 221 | 266 | 289 |

Table B-29 (continued)

| Product | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tablets | 348 | 212 | 262 | 267 | 234 | 419 | 487 | 531 | 540 | 553 | 592 | 607 |
| Sanitary towels | 99 | 127 | 117 | 172 | 114 | 212 | 137 | 220 | 218 | 154 | 215 | 240 |
| 10. Transport and communications | | | | | | | | | | | | |
| a. Personal transport equipment passenger cars a/ | 715 | 2 063 | 3 593 | 3 779 | 5 215 | 5 299 | 5 209 | 2 580 | 4 031 | 3 808 | 4 636 | 5 732 |
| b. Petrol, oils and lubricants b/ | 1 862 | 2 002 | 2 552 | 2 764 | 2 900 | 3 974 | 4 640 | 5 058 | 5 139 | 5 988 | 6 660 | 6 730 |
| 11. Amusements and entertainment | | | | | | | | | | | | |
| c. Books, newspapers and magazines | 130 | 206 | 100 | 39 | 77 | 175 | 179 | 225 | 206 | 215 | 221 | 252 |
| Newspapers and magazines | 25 | 25 | 2 | 2 | 8 | 38 | 51 | 75 | 95 | 53 | 48 | 143 |
| Books, text-books | 13 | 12 | 3 | - | 4 | 52 | 5 | 30 | 23 | 5 | 4 | 14 |
| Books and magazines | 92 | 169 | 95 | 37 | 65 | 85 | 123 | 120 | 88 | 157 | 169 | 95 |
| d-1. Others, non-durable | 983 | 1 765 | 1 469 | 1 034 | 986 | 945 | 1 235 | 2 180 | 1 067 | 1 345 | 1 367 | 1 191 |
| Rubber toys | 1 | 54 | 39 | 34 | 32 | 25 | 37 | 52 | 57 | 73 | 68 | 57 |
| Wooden toys | 65 | 18 | 18 | 8 | 14 | 9 | 16 | 53 | 21 | 25 | 15 | 18 |
| Tinplate toys | 40 | 37 | 55 | 51 | 37 | 51 | 95 | 998 | 120 | 269 | 205 | 104 |
| Iron toys | 44 | 105 | 369 | 147 | 126 | 119 | 130 | 138 | 128 | 129 | 138 | 170 |
| Children's toys | 5 | 6 | 30 | 36 | 90 | 80 | 125 | 114 | 83 | 64 | 95 | 71 |
| Children's toys | 552 | 981 | 458 | 375 | 407 | 460 | 609 | 557 | 478 | 597 | 651 | 542 |
| Films | 276 | 564 | 500 | 383 | 250 | 201 | 223 | 268 | 180 | 183 | 195 | 229 |

Source: See text of appendix B.

a/ Adjusted with the number of vehicles imported.

b/ Percentage of inventory of private vehicles as compared with total inventory, multiplied by the total expenditure on petrol, oils and lubricants.

Table B-30

PANAMA: CONSUMPTION MET FROM DOMESTIC PRODUCTION, 1945-56

(Thousands of balboas at 1950 prices)

| Products | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Foodstuffs | | | | | | | | | | | | |
| a. Bread and cereals | 13 424 | 13 052 | 14 268 | 15 450 | 16 313 | 18 113 | 19 045 | 19 883 | 22 684 | 21 811 | 22 541 | 21 869 |
| Rice | 6 484 | 5 979 | 6 670 | 8 201 | 8 727 | 9 237 | 9 320 | 10 015 | 12 237 | 10 892 | 10 907 | 10 820 |
| Maize | 1 251 | 1 421 | 1 498 | 1 750 | 2 049 | 2 347 | 2 518 | 2 661 | 2 909 | 2 851 | 3 040 | 2 782 |
| Bakery products | 5 689 | 5 652 | 6 100 | 5 499 | 5 537 | 6 529 | 7 207 | 7 207 | 7 538 | 8 068 | 8 594 | 8 267 |
| b. Meat | 12 407 | 12 993 | 14 239 | 14 408 | 13 620 | 13 590 | 13 831 | 13 634 | 14 806 | 15 771 | 15 538 | 16 337 |
| Beef | 10 119 | 10 728 | 11 961 | 11 642 | 11 305 | 11 172 | 11 545 | 10 795 | 11 411 | 12 251 | 12 399 | 13 311 |
| Pork and pork products | 2 288 | 2 265 | 2 278 | 2 766 | 2 315 | 2 418 | 2 286 | 2 839 | 3 395 | 3 520 | 3 139 | 3 026 |
| c. Fish | 309 | 361 | 412 | 536 | 688 | 431 | 414 | 459 | 571 | 603 | 780 | 728 |
| Fish | 272 | 306 | 339 | 426 | 542 | 285 | 268 | 278 | 278 | 195 | 563 | 463 |
| Shrimps | 37 | 55 | 73 | 110 | 146 | 146 | 146 | 181 | 298 | 408 | 217 | 265 |
| d. Milk, cheese and eggs | 4 241 | 4 323 | 4 649 | 4 588 | 4 623 | 4 797 | 4 876 | 4 969 | 5 537 | 5 682 | 5 785 | 6 476 |
| Condensed milk | 424 | 427 | 456 | 252 | 191 | 123 | 158 | 154 | 159 | 110 | 234 | 193 |
| Evaporated milk | - | - | 76 | 234 | 345 | 602 | 703 | 857 | 1 276 | 1 392 | 1 374 | 2 042 |
| Fresh milk | 3 817 | 3 896 | 4 117 | 4 102 | 4 087 | 4 072 | 4 015 | 3 958 | 4 102 | 4 180 | 4 177 | 4 241 |
| e. Oils and fats | 138 | 393 | 721 | 816 | 594 | 744 | 796 | 772 | 300 | 284 | 904 | 1 151 |
| Edible oils and fats | 138 | 393 | 721 | 816 | 594 | 744 | 796 | 772 | 300 | 284 | 904 | 1 151 |
| f. Fruits and vegetables | 2 437 | 3 672 | 3 045 | 3 294 | 4 161 | 4 278 | 3 989 | 3 695 | 3 851 | 4 150 | 4 766 | 4 334 |
| Potatoes | 262 | 540 | 271 | 330 | 397 | 287 | 515 | 330 | 253 | 440 | 473 | 515 |
| Cabbage | 316 | 291 | 267 | 291 | 413 | 340 | 352 | 486 | 534 | 437 | 486 | 486 |
| Tomatoes | 742 | 943 | 675 | 599 | 1 134 | 464 | 767 | 943 | 905 | 497 | 656 | 631 |
| Beans | 655 | 965 | 1 000 | 1 057 | 1 115 | 1 310 | 1 402 | 1 057 | 1 115 | 954 | 1 333 | 919 |
| Bananas | 462 | 933 | 832 | 1 017 | 1 041 | 1 821 | 881 | 736 | 842 | 1 290 | 1 261 | 1 119 |
| Tomato paste | - | - | - | - | 40 | 35a/ | 36 | 62 | 95 | 358 | 263 | 384 |
| Tomato sauce | - | - | - | - | 21 | 21a/ | 36 | 81 | 117 | 174 | 294 | 280 |

Table B-30 (continued)

| Products | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g. Sugar, preserves and confectionery | 918 | 1 297 | 1 698 | 2 180 | 2 226 | 2 272 | 2 203 | 3 144 | 2 926 | 3 213 | 3 202 | 3 213 |
| Sugar | 918 | 1 297 | 1 698 | 2 180 | 2 226 | 2 272 | 2 203 | 3 144 | 2 926 | 3 213 | 3 202 | 3 213 |
| h. Coffee, tea, cocoa | 3 954 | 3 784 | 4 406 | 3 897 | 3 558 | 3 615 | 3 671 | 3 784 | 2 711 | 3 615 | 2 881 | 2 824 |
| Coffee | 3 954 | 3 784 | 4 406 | 3 897 | 3 558 | 3 615 | 3 671 | 3 784 | 2 711 | 3 615 | 2 881 | 2 824 |
| i. Other foodstuffs | 313 | 746 | 464 | 382 | 370 | 485 | 557 | 623 | 456 | 664 | 894 | 692 |
| Salt | 188 | 614 | 342 | 260 | 263 | 385 | 458 | 502 | 334 | 539 | 798 | 593 |
| Ice | 125 | 132 | 122 | 122 | 107 | 100 | 99 | 121 | 122 | 125 | 96 | 99 |
| 2. Beverages | | | | | | | | | | | | |
| a. Non-alcoholic Carbonated beverages | 2 977 | 2 675 | 2 855 | 3 161 | 2 729 | 2 424 | 2 924 | 3 391 | 3 367 | 2 971 | 3 061 | 3 086 |
| b. Alcoholic | 14 571 | 15 292 | 12 808 | 11 872 | 10 963 | 9 011 | 10 764 | 10 956 | 11 354 | 11 049 | 10 721 | 11 709 |
| Beer | 9 167 | 9 659 | 8 819 | 6 997 | 6 207 | 4 429 | 6 407 | 6 440 | 7 297 | 6 919 | 6 651 | 7 021 |
| Others | 5 404 | 5 633 | 3 989 | 4 875 | 4 756 | 4 582 | 4 357 | 4 516 | 4 057 | 4 130 | 4 070 | 4 688 |
| 3. Tobacco | 260 | 325 | 390 | 390 | 390 | 390 | 455 | 455 | 455 | 455 | 1 786 | 2 147 |
| a. Cigarettes | - | - | - | - | - | - | - | - | - | - | 1 331 | 1 692 |
| b. Tobacco | 260 | 325 | 390 | 390 | 390 | 390a/ | 455 | 455 | 455 | 455 | 455 | 455 |
| 4. Wearing apparel | 7 794 | 11 686 | 14 809 | 12 308 | 14 531 | 14 685 | 11 819 | 17 353 | 17 588 | 16 760 | 17 559 | 18 144 |
| a. Footwear | 900 | 1 162 | 1 314 | 1 325 | 1 202 | 1 385 | 1 437 | 1 730 | 1 745 | 1 848 | 2 261 | 2 497 |
| b. Other wearing apparel | 6 894 | 10 524 | 13 495 | 10 983 | 13 329 | 13 300 | 10 382 | 16 123 | 15 843 | 14 912 | 15 298 | 15 647 |
| 5. Rents and water consumption | 24 188 | 25 020 | 25 941 | 27 249 | 28 526 | 29 715 | 30 577 | 31 587 | 32 627 | 33 935 | 35 420 | 37 025 |
| a. Rents b/ | 24 188 | 25 020 | 25 941 | 27 249 | 28 526 | 29 715 | 30 577 | 31 587 | 32 627 | 33 935 | 35 420 | 37 025 |
| 6. Fuel and ligthing | 1 993 | 2 185 | 2 314 | 2 435 | 2 588 | 2 746 | 2 945 | 3 252 | 3 397 | 3 588 | 3 810 | 3 965 |
| Electricity, Panama and Colón | 990 | 1 085 | 1 164 | 1 235 | 1 272 | 1 315 | 1 421 | 1 556 | 1 690 | 1 806 | 1 952 | 2 161 |
| Electricity, rest of Republic | 214 | 265 | 324 | 348 | 399 | 482c/ | 568 | 675 | 616 | 672 | 720 | 621 |
| Gas | 789 | 835 | 826 | 852 | 917 | 949 | 956 | 1 021 | 1 091 | 1 110 | 1 138 | 1 183 |
| 7. Furniture, fittings and household utensils | | | | | | | | | | | | |
| a. Furniture and fittings d/ | 1 408 | 1 605 | 1 718 | 1 680 | 1 751 | 1 826 | 1 850 | 2 279 | 2 281 | 2 178 | 2 230 | 2 277 |
| 10. Transport and communications | | | | | | | | | | | | |
| b. Utilization of personal transport equipment | 646 | 723 | 675 | 811 | 880 | 1 293 | 1 312 | 1 286 | 1 206 | 1 749 | 1 935 | 2 289 |

| ucts | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| c. Purchases of: | 12 674 | 13 516 | 11 132 | 9 698 | 10 438 | 11 847 | 10 623 | 11 426 | 11 338 | 12 271 | 13 468 | 16 304 |
| Rail services | 179 | 188 | 191 | 210 | 197 | 228 | 240 | 231 | 216 | 216 | 268 | 296 |
| Road services | 10 493 | 11 233 | 8 834 | 8 403 | 9 362 | 10 567 | 9 203 | 9 966 | 9 711 | 10 706 | 11 982 | 14 559 |
| Maritime services | 1 827 | 1 916 | 1 871 | 891 | 668 | 802 | 891 | 891 | 1 069 | 980 | 802 | 980 |
| Air services | 175 | 179 | 236 | 194 | 211 | 250[c/] | 289 | 338 | 342 | 369 | 416 | 469 |
| d. Communications | 1 057 | 1 109 | 1 174 | 1 246 | 1 297 | 1 383 | 1 579 | 1 748 | 1 891 | 1 906 | 2 173 | 2 328 |
| Amusements and entertainment | | | | | | | | | | | | |
| a. Entertainment | | | | | | | | | | | | |
| Cinemas | 3 367 | 2 952 | 2 867 | 2 809 | 3 058 | 2 640 | 2 623 | 2 953 | 3 093 | 3 301 | 3 604 | 3 406 |
| b. Hotels, restaurants and cafés | 2 924 | 3 197 | 2 718 | 2 614 | 2 495 | 2 480 | 2 582 | 2 845 | 2 842 | 3 075 | 2 924 | 3 403 |
| Miscellaneous services | | | | | | | | | | | | |
| a. Financial | 358 | 423 | 446 | 389 | 395 | 413 | 420 | 465 | 474 | 485 | 504 | 518 |
| b. Other services | 3 391 | 3 506 | 3 449 | 3 386 | 3 461 | 3 443 | 3 524 | 3 779 | 3 940 | 4 343 | 4 676 | 5 059 |
| Education | 1 162 | 1 196 | 1 205 | 1 188 | 1 230 | 1 249 | 1 247 | 1 340[e/] | 1 434 | 1 625 | 1 815 | 1 975 |
| Legal services | 1 210 | 1 254 | 1 218 | 1 193 | 1 211 | 1 191 | 1 236 | 1 324 | 1 360 | 1 476 | 1 553 | 1 674 |
| Funeral services | 218 | 226 | 220 | 215 | 219 | 215 | 223 | 239 | 246 | 266 | 280 | 302 |
| Photographic services | 801 | 830 | 806 | 790 | 801 | 788 | 818 | 876 | 900 | 976 | 1 028 | 1 108 |

ource: See text of appendix B.

/ 1.3 value of production.
/ 40 per cent of production.
/ Adjusted with the provisional housing index.
/ Adjusted with the final industrial production index.
/ Arithmetical interpolation.

Table B-31

PANAMA: ADJUSTMENTS TO TOTAL CONSUMPTION EXPENDITURE TO OBTAIN PRIVATE CONSUMPTION EXPENDITURE, 1945-1956

(Thousands of balboas at 1950 prices)

| Item | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| consumption expenditure total | 212 680 | 234 261 | 230 279 | 218 368 | 228 039 | 243 168 | 245 506 | 260 075 | 258 584 | 270 339 | 283 515 | 296 067 |
| et adjustments | -48 351 | -43 493 | -24 074 | -29 834 | -33 667 | -30 562 | -23 823 | -27 704 | -28 212 | -28 226 | -26 697 | -31 714 |
| dditions to total expenditure | 23 198 | 20 657 | 16 577 | 12 799 | 11 617 | 10 115 | 9 717 | 10 544 | 11 549 | 11 537 | 12 673 | 13 535 |
| urchases in Canal Zone by Panama residents | 23 163 | 20 620 | 16 549 | 12 764 | 11 570 | 10 046 | 9 631 | 10 460 | 11 465 | 11 448 | 12 585 | 13 452 |
| ospital services in anal Zone to Panama esidents | 35 | 37 | 28 | 35 | 47 | 69 | 86 | 84 | 84 | 89 | 88 | 83 |
| ubtractions from total expenditure | 71 549 | 63 149 | 40 651 | 42 633 | 45 284 | 40 677 | 33 540 | 38 248 | 39 761 | 39 763 | 39 370 | 45 249 |
| overnment purchases ncluded in total xpenditure | 4 784 | 6 325 | 4 805 | 4 160 | 4 404 | 4 613 | 4 364 | 6 534 | 5 736 | 5 981 | 5 812 | 6 400 |
| ourist expenditure | 17 439 | 15 657 | 6 239 | 5 426 | 5 788 | 5 832 | 5 765 | 7 225 | 7 113 | 8 243 | 7 489 | 9 551 |
| xpenditure of foreign iplomats | 1 560 | 1 560 | 1 179 | 1 067 | 1 075 | 1 087 | 948 | 1 041 | 1 093 | 1 093 | 1 185 | 1 384 |
| ales to ships in ransit | 63 | 48 | 116 | 377 | 257 | 301 | 581 | 470 | 88 | 110 | 54 | 2 |
| urchases in Panama by anal Zone residents | 44 000 | 36 400 | 25 800 | 28 200 | 29 600 | 24 700 | 17 800 | 18 800 | 21 400 | 20 700 | 19 900 | 19 100 |
| urchases in Canal Zone r Canal Zone agencies | 3 703 | 3 159 | 2 512 | 3 403 | 4 160 | 4 144 | 4 082 | 4 178 | 4 331 | 3 636 | 4 930 | 8 812 |
| rivate consumption xpenditure | 164 329 | 191 769 | 206 205 | 188 534 | 194 372 | 212 606 | 221 683 | 232 371 | 230 372 | 242 113 | 256 818 | 264 353 |

ource: See text of appendix B.

Table B-32

PANAMA: GROSS INVESTMENT, 1945-56

(Thousands of balboas at 1950 prices)

| Year | Total | Construction | Imported capital goods | Changes in plantations and livestock inventories |
|---|---|---|---|---|
| 1945 | 36 504 | 22 987 | 12 479 | 1 038 |
| 1946 | 41 984 | 21 319 | 19 535 | 1 130 |
| 1947 | 41 337 | 25 983 | 13 838 | 1 516 |
| 1948 | 37 189 | 20 008 | 17 030 | 151 |
| 1949 | 30 741 | 17 288 | 14 159 | -706 |
| 1950 | 28 546 | 17 596 | 11 116 | -166 |
| 1951 | 27 841 | 17 467 | 10 685 | -311 |
| 1952 | 31 556 | 19 450 | 13 448 | -1 342 |
| 1953 | 39 574 | 21 670 | 15 295 | 2 609 |
| 1954 | 39 858 | 22 725 | 16 774 | 359 |
| 1955 | 44 757 | 25 822 | 18 916 | 19 |
| 1956 | 49 192 | 26 474 | 22 843 | -125 |

Source: See text of appendix B.

/Table B-33

Table B-33

PANAMA: GROSS VALUE OF CONSTRUCTION, 1945-56

| Year | Index: 1950=100 | | | Value (thousands of balboas at 1950 prices) | | |
|---|---|---|---|---|---|---|
| | Total | Government | Private | Total | Government | Private |
| 1945 | 130.6 | 179.1 | 95.2 | 22 980 | 13 283 | 9 697 |
| 1946 | 121.2 | 143.4 | 105.0 | 21 326 | 10 630 | 10 696 |
| 1947 | 147.7 | 144.9 | 149.7 | 25 989 | 10 746 | 15 243 |
| 1948 | 113.7 | 69.8 | 145.7 | 20 007 | 5 173 | 14 834 |
| 1949 | 98.3 | 43.8 | 138.0 | 17 297 | 3 249 | 14 048 |
| 1950 | 100.0 | 100.0 | 100.0 | 17 596 | 7 414 | 10 182 |
| 1951 | 99.3 | 76.0 | 116.3 | 17 473 | 5 632 | 11 841 |
| 1952 | 110.5 | 99.4 | 118.6 | 19 444 | 7 373 | 12 071 |
| 1953 | 123.2 | 89.0 | 148.1 | 21 678 | 6 597 | 15 081 |
| 1954 | 129.2 | 69.4 | 172.7 | 22 734 | 5 147 | 17 587 |
| 1955 | 146.7 | 96.5 | 183.3 | 25 813 | 7 152 | 18 661 |
| 1956 | 150.5 | 162.4 | 141.9 | 26 482 | 12 038 | 14 444 |

Source: See text of appendix B.

Table B-34

PANAMA: IMPORTS OF CAPITAL GOODS, 1945-56

(Thousands of balboas at 1950 prices)

| Year | Total | Agricultural equipment | Transport and communications equipment a/ | Industrial equipment | Capital goods (unspecified) | Live animals |
|---|---|---|---|---|---|---|
| 1945 | 12 479 | 485 | 2 998 | 2 609 | 6 371 | 16 |
| 1946 | 19 535 | 1 552 | 4 229 | 3 613 | 10 111 | 30 |
| 1947 | 13 838 | 211 | 4 288 | 2 678 | 6 615 | 46 |
| 1948 | 17 030 | 623 | 4 622 | 3 298 | 8 438 | 49 |
| 1949 | 14 159 | 681 | 4 040 | 2 481 | 6 901 | 56 |
| 1950 | 11 116 | 768 | 2 904 | 1 877 | 5 505 | 62 |
| 1951 | 10 685 | 602 | 3 250 | 1 667 | 5 069 | 97 |
| 1952 | 13 448 | 1 145 | 2 966 | 2 355 | 6 876 | 106 |
| 1953 | 15 295 | 806 | 3 769 | 2 939 | 7 684 | 97 |
| 1954 | 16 774 | 1 012 | 3 540 | 3 413 | 8 700 | 109 |
| 1955 | 18 916 | 1 258 | 4 604 | 3 454 | 9 595 | 5 |
| 1956 | 22 843 | 1 844 | 5 651 | 3 879 | 11 469 | - |

Source: See text of appendix B.

a/ Includes imports of ships and aircraft, which are not registered.

/Table B-35

Table B-35

PANAMA: VALUE OF CHANGES IN LIVESTOCK INVENTORIES AND PLANTATIONS, 1945-56

(Thousands of balboas at 1950 prices)

| Description | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 1 038 | 1 130 | 1 516 | 151 | -706 | -166 | -311 | -1 041 | 2 604 | 363 | 19 | -1 |
| Value of changes in beef cattle inventories | 485 | 506 | 1 432 | 747 | -666 | -370 | -139 | -601 | 934 | 504 | -19 | 4 |
| Value of changes in pig inventories | 282 | 209 | 180 | -586 | -43 | 215 | -164 | -488 | 1 570 | -240 | -170 | -5 |
| Value of changes in banana plantations | 271 | 415 | -96 | -10 | 3 | -11 | -8 | 48 | 100 | 99 | 208 | - |

Source: See text of appendix B.

/Table B-36

Table B-36

PANAMA: DEFLATIONARY INDEX FOR PUBLIC INVESTMENT, 1945-56

(1950=100)

| Item | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Index a/ | 78.8 | 84.8 | 103.6 | 106.0 | 105.5 | 100.0 | 109.5 | 105.3 | 106.0 | 97.3 | 104.6 | 110.0 |
| Index for construction of roads, docks, etc. b/ | 85.0 | 92.3 | 106.9 | 111.5 | 107.0 | 100.0 | 107.9 | 105.2 | 106.0 | 98.8 | 105.1 | 107.8 |
| Index for construction of buildings and other works c/ | 77.8 | 84.5 | 101.5 | 108.8 | 107.6 | 100.0 | 110.8 | 105.7 | 108.0 | 96.2 | 106.8 | 111.7 |
| Index for imports of machinery and equipment d/ | 57.0 | 67.1 | 94.2 | 82.0 | 99.2 | 100.0 | 112.8 | 102.2 | 103.0 | 98.3 | 98.2 | 110.6 |

Source: See text of appendix B.

a/ Wighting: Road construction, 36.1; building construction, 49.7; imports of machinery and equipment 14.2.

b/ Constructed by combining the index numbers for foodstuffs and imports of construction materials applying a weighting of 56.6 and 43.4 respectively.

c/ The same indices as in b/ above were combined, weighted as follows: foodstuffs 26.7; imports 73.3.

d/ Corresponds to an index or the unit value of c.i.f. imports of capital goods for agriculture, industry and mining and transport.

Table B-37

PANAMA: CAPACITY TO IMPORT, 1945-56

(Thousands of balboas at 1950 prices)

| Description | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 131 716 | 124 729 | 83 751 | 83 310 | 85 995 | 78 012 | 70 009 | 71 724 | 78 518 | 85 346 | 92 504 | 92 [illegible]76 |
| Registered exports | 10 506 | 16 888 | 13 836 | 18 070 | 19 443 | 19 618 | 20 364 | 17 866 | 21 322 | 27 766 | 31 699 | 25 [illegible]47 |
| Transit and tourist services | 23 566 | 21 764 | 10 693 | 10 767 | 10 346 | 9 549 | 9 449 | 11 203 | 10 113 | 11 810 | 11 894 | 13 [illegible]69 |
| Re-exports | 1 752 | 2 174 | 2 821 | 3 912 | 3 041 | 2 329 | 2 570 | 2 879 | 1 969 | 1 780 | 2 214 | 2 023 |
| Colón Free Zone | - | - | - | - | - | - | - | - | 156 | 690 | 846 | [illegible]82 |
| Sales to ships and aircraft in transit | 146 | 152 | 175 | 377 | 252 | 301 | 380 | 329 | 136 | 157 | 114 | [illegible]8 |
| Expenditure of foreign visitors | 19 704 | 16 363 | 6 328 | 5 313 | 5 940 | 5 832 | 5 589 | 6 982 | 6 807 | 8 882 | 7 526 | 9 [illegible]40 |
| Expenditure of foreign diplomats resident in Panama | 1 964 | 2 028 | 1 369 | 1 165 | 1 113 | 1 087 | 910 | 1 013 | 1 045 | 1 101 | 1 194 | 1 [illegible]06 |
| Sales to Panama Canal Zone | 97 644 | 86 077 | 59 222 | 54 473 | 56 206 | 48 845 | 40 196 | 42 655 | 47 083 | 45 770 | 48 911 | 52 [illegible]30 |
| Regular wages received by employees resident in Panama | 34 586 | 34 336 | 25 607 | 19 413 | 17 171 | 15 221 | 14 728 | 16 143 | 17 371 | 18 163 | 19 720 | 20 [illegible]25 |
| Sales of services to Canal Zone agencies | 2 985 | 2 853 | 2 028 | 2 581 | 2 993 | 2 880 | 2 724 | 2 825 | 2 878 | 2 547 | 3 450 | 5 [illegible]37 |
| Wages received by employees of Panamanian contractors | 4 687 | 4 647 | 3 453 | 2 487 | 2 152 | 1 853 | 1 801 | 2 055 | 2 501 | 1 235 | 1 033 | [illegible]67 |
| Sales of goods to Canal Zone agencies | 4 296 | 4 105 | 2 919 | 3 716 | 4 306 | 4 144 | 3 920 | 4 065 | 4 141 | 3 665 | 4 964 | 8 [illegible]16 |
| Sales to Canal Zone residents | 51 090 | 40 136 | 25 215 | 26 276 | 29 584 | 24 747 | 17 023 | 17 567 | 20 192 | 20 160 | 19 744 | 18 [illegible]65 |

Source: See text of appendix B.

Table B-38

PANAMA: CURRENT VALUES AND QUANTUM OF F.O.B. REGISTERED EXPORTS, 1945-56 a/

| Item | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Current values, total (thousands of balboas) | 8 657 | 13 477 | 13 670 | 19 082 | 19 929 | 19 618 | 22 013 | 19 188 | 22 857 | 28 238 | 32 428 | 27 93 |
| Animals, foodstuffs and beverages | 5 262 | 10 543 | 9 750 | 14 938 | 16 698 | 16 543 | 17 702 | 14 989 | 19 699 | 26 384 | 30 337 | 27 02 |
| Unprocessed materials | 3 253 | 2 772 | 3 702 | 3 691 | 2 492 | 2 826 | 3 346 | 2 789 | 2 432 | 1 624 | 1 897 | 78 |
| Manufactured products | 142 | 162 | 199 | 445 | 340 | 205 | 876 | 1 374 | 726 | 230 | 194 | 12 |
| Precious metals and minerals | - | - | 19 | 8 | 391 | 44 | 89 | 36 | - | - | | |
| Quantum, total (thousands of balboas at 1950 prices) | 11 669 | 18 610 | 19 169 | 20 973 | 21 253 | 19 620 | 20 535 | 19 487 | 20 937 | 22 629 | 26 998 | 23 69 |
| Animals, foodstuffs and beverages | 8 213 | 16 769 | 15 261 | 18 130 | 18 471 | 16 545 | 16 563 | 14 767 | 17 775 | 20 665 | 24 926 | 22 60 |
| Unprocessed materials | 3 235 | 1 678 | 3 671 | 2 406 | 2 101 | 2 826 | 2 987 | 3 304 | 2 391 | 1 647 | 1 806 | 94 |
| Manufactured products | 221 | 163 | 216 | 427 | 341 | 205 | 893 | 1 337 | 771 | 387 | 266 | 14 |
| Precious minerals and metals | - | - | 21 | 10 | 340 | 44 | 92 | 79 | - | - | - | - |

Source: See text of appendix B.

a/ Including re-valuation adjustments for bananas and abaca.

Table B-39

PANAMA: CURRENT VALUES OF RE-EXPORTS, 1945-56

(Balboas)

| Group | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 |
|---|---|---|---|---|---|---|
| Total | 1 443 635 | 1 734 925 | 2 787 429 | 4 130 540 | 3 116 763 | 2 328 644 |
| Non-durable consumer goods | 700 999 | 704 933 | 1 048 565 | 1 131 132 | 882 045 | 749 334 |
| Durable consumer goods | 144 187 | 190 842 | 693 136 | 993 460 | 500 934 | 285 867 |
| Fuels and lubricants | 1 344 | 9 417 | 11 270 | 11 855 | 6 267 | 1 867 |
| Raw materials for industry | 419 503 | 409 765 | 436 560 | 447 886 | 572 455 | 401 478 |
| Raw materials for capital goods | 2 645 | 5 041 | 18 980 | 89 874 | 69 097 | 92 862 |
| Construction materials | 5 554 | 39 027 | 47 971 | 197 497 | 262 898 | 355 115 |
| Capital goods for agriculture | 2 200 | 9 316 | 21 023 | 146 490 | 88 030 | 128 243 |
| Capital goods for industry and mining | 21 027 | 130 084 | 94 713 | 163 283 | 606 798 | 121 670 |
| Capital goods for transport | 37 | 81 161 | 194 434 | 718 450 | 34 685 | 50 451 |
| Miscellaneous | 146 139 | 155 339 | 220 777 | 230 613 | 93 554 | 141 757 |

Table B-39 (continued)

| Group | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|
| Total | 2 777 540 | 3 091 709 | 2 111 047 | 1 809 972 | 2 265 316 | 2 194 996 |
| Non-durable consumer goods | 620 244 | 687 205 | 539 603 | 362 125 | 323 149 | 513 105 |
| Durable consumer goods | 430 594 | 798 176 | 471 327 | 436 643 | 267 249 | 247 836 |
| Fuels and lubricants | 7 912 | 5 640 | 5 732 | 4 516 | 12 860 | 16 620 |
| Raw materials for industry | 976 409 | 582 382 | 528 604 | 305 691 | 269 379 | 207 206 |
| Raw materials for capital goods | 153 093 | 403 444 | 187 431 | 97 319 | 110 307 | 479 052 |
| Construction materials | 111 949 | 74 387 | 63 484 | 29 804 | 50 410 | 33 949 |
| Capital goods for agriculture | 70 901 | 59 698 | 26 497 | 40 438 | 129 823 | 34 242 |
| Capital goods for industry and mining | 232 051 | 192 098 | 146 985 | 164 362 | 638 254 | 99 976 |
| Capital goods for transport | 80 973 | 129 360 | 44 739 | 85 119 | 169 567 | 6 478 |
| Miscellaneous | 93 414 | 159 319 | 96 645 | 283 955 | 294 318 | 506 531 |

Source: See text of appendix B.

Table B-40

PANAMA: QUANTUM OF REGISTERED RE-EXPORTS, 1945-56

(1950 balboas)

| Group | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 |
|---|---|---|---|---|---|---|
| Total | 1 668 715 | 1 778 514 | 2 830 301 | 4 549 334 | 2 877 632 | 2 328 644 |
| Non-durable consumer goods | 862 739 | 798 267 | 1 344 923 | 1 576 303 | 865 345 | 749 334 |
| Durable consumer goods | 53 756 | 163 391 | 597 379 | 790 151 | 396 777 | 285 867 |
| Fuels and lubricants | 1 177 | 4 581 | 11 440 | 8 580 | 3 903 | 1 867 |
| Raw materials for industry | 662 900 | 507 722 | 434 799 | 430 671 | 551 975 | 401 478 |
| Raw materials for capital goods | 2 520 | 9 017 | 38 473 | 144 606 | 106 463 | 92 862 |
| Construction materials | 11 006 | 58 666 | 123 765 | 204 664 | 393 843 | 355 115 |
| Capital goods for agriculture | 1 225 | 4 280 | 2 573 | 8 414 | 44 810 | 128 243 |
| Capital goods for industry and mining | 29 931 | 110 833 | 37 201 | 250 284 | 429 425 | 121 670 |
| Capital goods for transport | 19 | 76 417 | 204 318 | 1 046 445 | 52 168 | 50 451 |
| Miscellaneous | 43 442 | 45 340 | 35 430 | 89 216 | 32 923 | 141 757 |

Table B-40 (continued)

| Group | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|
| Total | 2 938 729 | 5 594 732 | 2 312 093 | 2 346 351 | 2 455 157 | 2 349 593 |
| Non-durable consumer goods | 607 157 | 1 575 476 | 615 025 | 528 448 | 411 568 | 604 270 |
| Durable consumer goods | 443 282 | 665 914 | 370 414 | 330 478 | 219 371 | 175 733 |
| Fuels and lubricants | 15 367 | 3 841 | 3 503 | 2 601 | 10 123 | 13 731 |
| Raw materials for industry | 849 817 | 522 829 | 453 207 | 289 270 | 238 370 | 112 460 |
| Raw materials for capital goods | 82 424 | 805 299 | 318 241 | 276 177 | 325 770 | 1 089 867 |
| Construction materials | 161 135 | 341 851 | 65 229 | 103 795 | 64 984 | 64 603 |
| Capital goods for agriculture | 128 967 | 80 806 | 42 214 | 58 851 | 60 469 | 36 930 |
| Capital goods for industry and mining | 299 677 | 836 216 | 182 502 | 526 123 | 787 052 | 73 040 |
| Capital goods for transport | 193 555 | 465 463 | 102 827 | 190 387 | 183 754 | 5 760 |
| Miscellaneous | 157 348 | 297 037 | 158 931 | 40 221 | 153 696 | 173 199 |

Source: See text of appendix B.

Table B-41

PANAMA: CURRENT VALUES OF EXPORTS OF GOODS AND SERVICES, 1945-56

(Thousands of balboas)

| Description | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| otal | 108 534 | 98 699 | 82 746 | 87 975 | 88 146 | 78 012 | 75 679 | 77 032 | 84 171 | 86 797 | 94 632 | 100 227 |
| egistered exports | 8 657 | 13 477 | 13 670 | 19 082 | 19 929 | 19 618 | 22 013 | 19 188 | 22 857 | 28 238 | 32 428 | 27 935 |
| ransit and tourist | | | | | | | | | | | | |
| ervices | 19 418 | 16 532 | 10 565 | 11 369 | 10 605 | 9 549 | 10 215 | 12 032 | 10 841 | 12 011 | 12 168 | 14 831 |
| e-exports | 1 444 | 1 735 | 2 787 | 4 131 | 3 117 | 2 329 | 2 778 | 3 092 | 2 111 | 1 810 | 2 265 | 2 195 |
| olón Free Zone | | | | | | | | | 167 | 702 | 866 | 1 065 |
| ales to ships and | | | | | | | | | | | | |
| ircraft in transit | 120 | 121 | 173 | 398 | 258 | 301 | 411 | 353 | 146 | 160 | 117 | 20 |
| xpenditure of foreign | | | | | | | | | | | | |
| isitors | 16 236 | 13 058 | 6 252 | 5 610 | 6 039 | 5 832 | 6 042 | 7 499 | 7 297 | 8 219 | 7 699 | 10 134 |
| xpenditure of foreign | | | | | | | | | | | | |
| iplomats resident in | | | | | | | | | | | | |
| anama | 1 618 | 1 612 | 1 353 | 1 230 | 1 141 | 1 087 | 984 | 1 088 | 1 120 | 1 120 | 1 221 | 1 417 |
| ales to Panama Canal | | | | | | | | | | | | |
| one | 80 459 | 68 690 | 58 511 | 57 524 | 57 612 | 48 845 | 43 451 | 45 812 | 50 473 | 46 548 | 50 036 | 57 461 |
| egular wages received | | | | | | | | | | | | |
| y employees resident | | | | | | | | | | | | |
| n Panama | 28 499 | 22 400 | 25 300 | 20 500 | 17 600 | 15 221 | 15 921 | 17 338 | 18 622 | 18 472 | 20 174 | 21 727 |
| ales of services to | | | | | | | | | | | | |
| anal Zone agencies | 2 460 | 2 277 | 2 004 | 2 726 | 3 068 | 2 880 | 2 945 | 3 034 | 3 085 | 2 590 | 3 529 | 6 170 |
| ages received by | | | | | | | | | | | | |
| employees of Panama- | | | | | | | | | | | | |
| nian contractors | 3 862 | 3 708 | 3 411 | 2 626 | 2 206 | 1 853 | 1 946 | 2 207 | 2 681 | 1 256 | 1 057 | 724 |
| les of goods to | | | | | | | | | | | | |
| anal Zone agencies | 3 540 | 3 276 | 2 884 | 3 924 | 4 414 | 4 144 | 4 237 | 4 366 | 4 439 | 3 727 | 5 078 | 9 023 |
| les to Canal Zone | | | | | | | | | | | | |
| esidents | 42 098 | 32 029 | 24 912 | 27 748 | 30 324 | 24 747 | 18 402 | 18 867 | 21 646 | 20 503 | 20 198 | 19 817 |

urce: See text of appendix B.

Table B-42

PANAMA: QUANTUM OF EXPORTS OF GOODS AND SERVICES, 1945-56

(Thousands of balboas at 1950 prices)

| Description | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 135 787 | 117 597 | 92 777 | 91 087 | 88 294 | 78 012 | 71 663 | 75 690 | 77 206 | 76 781 | 82 676 | 86 046 |
| Registered exports | 11 669 | 18 610 | 19 169 | 20 973 | 21 253 | 19 618 | 20 535 | 19 487 | 20 937 | 22 699 | 26 998 | 23 690 |
| Transit and tourist services | 20 865 | 19 044 | 10 364 | 11 418 | 9 998 | 9 549 | 10 233 | 14 331 | 10 770 | 12 479 | 12 027 | 14 331 |
| Re-exports | 1 669 | 1 779 | 2 830 | 4 549 | 2 878 | 2 329 | 2 939 | 5 595 | 2 312 | 2 346 | 2 455 | 2 350 |
| Colón Free Zone | - | - | - | - | - | - | - | - | 164 | 687 | 844 | 1 044 |
| Sales to ships and aircraft in transit | 63 | 48 | 166 | 377 | 257 | 301 | 581 | 470 | 88 | 110 | 54 | 2 |
| Expenditure of foreign visitors | 17 439 | 15 657 | 6 239 | 5 425 | 5 788 | 5 832 | 5 765 | 7 225 | 7 113 | 8 243 | 7 429 | 9 551 |
| Expenditure of foreign diplomats resident in Panama | 1 694 | 1 560 | 1 179 | 1 067 | 1 075 | 1 087 | 948 | 1 041 | 1 093 | 1 093 | 1 185 | 1 384 |
| Sales to Panama Canal Zone | 103 253 | 79 943 | 63 244 | 58 696 | 57 043 | 48 845 | 40 895 | 41 872 | 45 499 | 41 603 | 43 651 | 48 025 |
| Regular wages received by employees resident in Panama | 47 419 | 33 911 | 29 625 | 21 878 | 17 996 | 15 221 | 14 421 | 14 353 | 14 651 | 14 079 | 15 146 | 15 120 |
| Sales of services to Canal Zone agencies | 4 093 | 2 818 | 2 347 | 2 909 | 3 137 | 2 880 | 2 668 | 2 512 | 2 427 | 1 924 | 2 649 | 4 294 |
| Wages of services by employees of Panamanian contractors | 4 044 | 3 576 | 2 971 | 2 278 | 2 079 | 1 853 | 1 875 | 2 112 | 2 616 | 1 225 | 1 026 | 707 |
| Sale of goods to Canal Zone agencies | 3 707 | 3 159 | 2 512 | 3 403 | 4 160 | 4 144 | 4 082 | 4 178 | 4 331 | 3 636 | 4 930 | 8 812 |
| Sales to Canal Zone residents | 43 990 | 36 479 | 25 789 | 28 228 | 29 671 | 24 747 | 17 849 | 18 717 | 21 474 | 20 689 | 19 900 | 19 092 |

Source: See text of appendix B.

Table B-43

PANAMA: DEFLATIONARY INDEX FOR TOURIST EXPENDITURE, 1945-56 a/
(1950 = 100)

| Year | Total | Food-stuffs | Transport | Alcoholic beverages | Clothing, perfumes etc. |
|---|---|---|---|---|---|
| 1945 | 93.1 | 95.5 | 41.1 | 99.2 | 111.0 |
| 1946 | 83.4 | 103.7 | 53.7 | 102.5 | 49.5 |
| 1947 | 100.2 | 114.8 | 69.6 | 102.1 | 92.9 |
| 1948 | 103.4 | 115.2 | 83.2 | 99.8 | 100.5 |
| 1949 | 105.2 | 106.0 | 88.0 | 101.3 | 117.3 |
| 1950 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1951 | 104.8 | 103.8 | 104.4 | 103.7 | 107.5 |
| 1952 | 103.8 | 104.4 | 99.9 | 96.7 | 112.3 |
| 1953 | 102.6 | 102.5 | 108.5 | 97.8 | 104.3 |
| 1954 | 99.7 | 102.5 | 105.4 | 99.9 | 92.0 |
| 1955 | 102.8 | 103.0 | 122.4 | 100.8 | 94.2 |
| 1956 | 106.1 | 102.4 | 108.6 | 100.4 | 116.0 |

Source: See text of appendix B.

a/ Weighting: foodstuffs 37 per cent; transport 13 per cent; alcoholic beverages 25 per cent; clothing, perfumes etc. 25 per cent.

/Table B-44

Table B-44

PANAMA: NUMBER AND EXPENDITURE OF FOREIGN VISITORS, 1945-56

| Description | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Visitors (thousands) | | | | | | |
| otal | 1 258.8 | 1 091.6 | 332.2 | 307.0 | 317.0 | 334.5 | 303.6 | 386.1 | 392.4 | 386.7 | 360.1 | 459.3 |
| Transit through Panama (a) | 9.1 | 11.1 | 14.7 | 12.6 | 13.9 | 14.8 | 17.1 | 20.1 | 23.4 | 21.9 | 22.3 | 23.7 |
| Transit through Panama (b) | 22.4 | 23.0 | 23.7 | 32.4 | 51.4 | 69.7 | 78.5 | 88.8 | 92.1 | 95.2 | 96.0 | 112.8 |
| Tourists | 4.5 | 5.7 | 8.0 | 7.6 | 8.6 | 16.3 | 18.4 | 21.7 | 18.3 | 23.6 | 24.7 | 25.7 |
| Business | 2.5 | 3.0 | 4.0 | 3.3 | 3.6 | 2.1 | 2.5 | 2.9 | 1.0 | 1.8 | 2.3 | 2.8 |
| Official | 1.5 | 1.8 | 2.4 | 2.0 | 2.2 | 1.3 | 1.5 | 1.8 | 2.0 | 2.4 | 2.3 | 3.3 |
| Air crews | 6.6 | 8.4 | 10.4 | 9.3 | 5.3 | 9.5 | 9.4 | 10.2 | 10.4 | 11.2 | 11.5 | 11.9 |
| Ship's crews | 558.3 | 486.0 | 231.2 | 224.2 | 190.8 | 194.3 | 170.0 | 211.4 | 227.7 | 205.5 | 182.6 | 263.0 |
| Naval crews | 654.0 | 552.5 | 37.8 | 15.5 | 41.2 | 26.4 | 6.1 | 29.3 | 15.4 | 21.7 | 18.0 | 13.6 |
| Unspecified | - | - | - | - | - | - | - | - | 2.1 | 3.3 | 0.3 | 2.5 |
| | | | | | | Expenditure (thousands of balboas at 1950 prices) | | | | | | |
| otal | 17 439.5 | 15 657.4 | 6 239.4 | 5 425.1 | 5 788.0 | 5 831.8 | 5 765.2 | 7 224.6 | 7 112.5 | 8 243.2 | 7 488.8 | 9 551.5 |
| Transit through Panama (a) | 128.3 | 156.2 | 208.3 | 178.7 | 196.7 | 208.8 | 241.6 | 283.9 | 330.2 | 309.9 | 315.5 | 334.7 |
| Transit through Panama (b) | 22.4 | 23.0 | 23.8 | 32.4 | 51.4 | 69.7 | 78.5 | 88.8 | 92.1 | 95.2 | 96.0 | 112.8 |
| Tourists | 548.6 | 700.5 | 971.9 | 923.5 | 1 053.1 | 1 987.2 | 2 238.3 | 2 640.1 | 2 227.8 | 2 872.0 | 3 005.4 | 3 136.0 |
| Business | 354.6 | 426.5 | 562.3 | 467.2 | 508.4 | 298.8 | 352.5 | 413.0 | 149.0 | 255.0 | 327.0 | 400.8 |
| Official | 960.2 | 1 161.7 | 1 542.4 | 1 302.1 | 1 426.2 | 8 880.8 | 1 016.0 | 1 195.2 | 1 317.9 | 1 592.2 | 1 523.3 | 2 170.4 |
| Air crews | 32.8 | 42.1 | 51.8 | 46.7 | 26.4 | 47.4 | 47.0 | 50.9 | 51.8 | 55.9 | 57.5 | 59.5 |
| Ship's crews | 5 582.6 | 4 860.2 | 2 311.9 | 2 242.3 | 1 908.4 | 1 943.1 | 1 700.0 | 2 113.7 | 2 277.1 | 2 055.4 | 1 825.8 | 2 629.9 |
| Naval crews | 9 810.0 | 8 287.2 | 567.0 | 232.2 | 617.4 | 396.0 | 91.3 | 439.1 | 230.4 | 325.9 | 270.6 | 203.5 |
| Unspecified | - | - | - | - | - | - | - | - | 436.2 | 681.8 | 67.7 | 503.9 |

ource: See text of appendix B.

Table B-45

PANAMA: DEFLATIONARY INDEX FOR EXPENDITURE IN PANAMA BY CANAL ZONE RESIDENTS, 1945-56

(1950 = 100)

| Year | Deflationary index | Liquors | Perfumes, silk clothing, etc. | Lottery | Race-track | Transport | Cinema |
|---|---|---|---|---|---|---|---|
| 1945 | 95.7 | 99.2 | 111.0 | 100.0 | 100.0 | 41.1 | 100.0 |
| 1946 | 87.8 | 102.5 | 49.5 | 100.0 | 100.0 | 53.7 | 100.0 |
| 1947 | 96.6 | 102.1 | 92.9 | 100.0 | 100.0 | 69.6 | 100.0 |
| 1948 | 93.3 | 99.8 | 100.5 | 100.0 | 100.0 | 83.2 | 100.0 |
| 1949 | 102.2 | 101.3 | 117.3 | 100.0 | 100.0 | 88.0 | 100.0 |
| 1950 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1951 | 103.1 | 103.7 | 107.5 | 100.0 | 100.0 | 104.4 | 100.0 |
| 1952 | 100.8 | 96.7 | 112.3 | 100.0 | 100.0 | 99.9 | 100.0 |
| 1953 | 100.0 | 97.8 | 104.3 | 100.0 | 100.0 | 108.5 | 100.0 |
| 1954 | 99.1 | 99.9 | 92.0 | 100.0 | 100.0 | 105.4 | 100.0 |
| 1955 | 101.5 | 100.8 | 94.2 | 100.0 | 100.0 | 122.4 | 100.0 |
| 1956 | 103.3 | 100.4 | 116.0 | 100.0 | 100.0 | 108.6 | 100.0 |

Source: See text of appendix B.
Weighting: Liquors 38 per cent; perfume etc. 17 per cent, lottery 15 per cent; racetrack 13 per cent; transport 10 per cent; cinema 7 per cent.

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Table B-46

PANAMA: INDEX OF TERMS OF TRADE, 1945-56

(1950 = 100)

| Description | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| otal | 97.0 | 105.1 | 90.3 | 91.5 | 97.4 | 100.0 | 97.7 | 94.8 | 101.7 | 111.9 | 111.9 | 107.4 |
| egistered exports | 90.0 | 90.7 | 72.2 | 86.2 | 91.5 | 100.0 | 99.2 | 91.7 | 101.9 | 122.3 | 117.4 | 108.7 |
| ransit and tourist services | 113.0 | 91.9 | 97.0 | 106.0 | 103.6 | 100.0 | 92.3 | 78.2 | 93.9 | 94.6 | 98.9 | 94.4 |
| Re-exports | 104.5 | 122.2 | 99.7 | 86.0 | 105.7 | 100.0 | 87.4 | 51.5 | 85.2 | 75.9 | 90.2 | 86.1 |
| Colón Free Zone | - | - | - | - | - | - | - | - | 95.0 | 100.5 | 100.3 | 94.0 |
| Sales to ships and aircraft in transit | 231.2 | 315.9 | 150.9 | 100.0 | 98.0 | 100.0 | 65.4 | 69.9 | 154.8 | 143.1 | 211.8 | 921.7 |
| Expenditure of foreign visitors | 113.0 | 104.5 | 101.4 | 97.9 | 102.6 | 100.0 | 96.9 | 96.6 | 95.7 | 98.0 | 100.5 | 97.8 |
| Expenditure of foreign diplomats resident in Panama | 115.9 | 129.9 | 116.2 | 109.2 | 103.5 | 100.0 | 96.0 | 97.3 | 95.6 | 100.8 | 100.7 | 94.4 |
| les to Panama Canal Zone | 94.5 | 107.6 | 93.6 | 92.8 | 98.5 | 100.0 | 98.3 | 101.9 | 103.3 | 110.0 | 112.0 | 110.2 |
| Regular wages received by employees resident in Panama | 72.9 | 101.3 | 86.4 | 88.7 | 95.4 | 100.0 | 102.1 | 112.5 | 118.6 | 129.0 | 130.2 | 132.4 |
| Occasional wages (services) received by employees resident in Panama | 72.9 | 101.3 | 86.4 | 88.7 | 95.4 | 100.0 | 102.1 | 112.5 | 118.6 | 129.0 | 130.2 | 132.4 |
| Wages received by employees of Panamanian contractors | 115.9 | 129.9 | 116.2 | 109.2 | 103.5 | 100.0 | 96.0 | 97.3 | 95.6 | 100.8 | 100.7 | 94.4 |
| Sales of goods to Canal Zone agencies | 115.9 | 129.9 | 116.2 | 109.2 | 103.5 | 100.0 | 96.0 | 97.3 | 95.6 | 100.8 | 100.7 | 94.4 |
| Sales to Canal Zone residents | 116.1 | 110.0 | 97.8 | 93.1 | 99.7 | 100.0 | 95.4 | 93.9 | 94.0 | 97.4 | 99.2 | 95.7 |

urce: See text of appendix B.